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HEALTH AND INDUSTRIAL EFFICIENCY

SCOTTISH EXPERIMENTS IN SOCIAL MEDICINE

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PREFACE

THE outlook on medical practice has recently been influenced by two reports which are complementary to each other and both of which, from different angles, indicate a growing appreciation of the relationship between health and industrial efficiency. The first is the Beveridge Report on Social Insurance and Allied Services. The scheme for social security adumbrated therein postulates three essentials for success; one of these is the organisation of a comprehensive medical and rehabilitation service. The second report is that of the Tomlinson Committee which recommends the provision of facilities for the rehabilitation of persons recovering from any one of a comprehensive range of diseases and disabilities. These reports are in harmony with the new orientation of medical practice towards social medicine, about which so much has been spoken and written, but regarding which so little experimental work or investigation has been done.

An important step forward in Social Medicine is the recent Government decision to provide treatment allowances for certain cases of pulmonary tuberculosis, a disease which has long been recognised as a social as much as a medical problem, with the family as the unit for consideration so far as treatment is concerned. The promotion of healthy living and the success attending the treatment of a wide range of departures from health are closely bound up with economic, industrial and social considerations.

Social Medicine offers a wide field for research and the worker in that field will find much to interest him; moreover, it is the common meeting ground of preventive and curative medicine. There are many problems awaiting solution, but perhaps the first step is the collection of morbidity statistics on a wider scale than hitherto attempted. From 1930 to 1938, from National Health Insurance sources in Scotland, statistics of incapacitating sickness have been recorded annually and so a background, however limited, is available against which the trend of sickness can be studied and some of the urgent problems of these days assessed. Some of this information finds a place in these studies.

While many of the problems considered in this brochure are the creation of war, the means of tackling them also flow from war-time conditions. The availability of accommodation in emergency hospitals built and administered by the Department of Health for Scotland was fortuitous and offered opportunity for undertaking some of the work described in these pages. These experiments and studies are of peculiar interest and of special importance at the present time, when the closest consideration is being given to the development of preventive medicine; to the early ascertainment of disease and disability; to rehabilitation; and to the training and resettlement of disabled persons. They represent excursions into difficult and little explored fields of preventive medicine and of rehabilitation and are recorded here in the hope that they may be both a guide to future developments of the national health services and a stimulus to further enquiry. The most recent experiment is that on rehabilitation at the Gleneagles Fitness Centre, and, although progress has been satisfactory, it is yet too early to assess its results. As a a matter of interest, however, and despite the absence of statistical evidence of progress, it has been decided to describe its lay-out and early development.

A happy and invaluable feature of the work described in these pages has been the co-operation between the Department of Health and other organisations and individuals interested in the promotion of the health and well-being of the working population. Such co-operation is essential to the correlation of health with industrial efficiency, not least in the replacement of "medical misfits" in new employment, and it is a happy augury for future progress in Social Medicine.

The story of these experiments is the collective effort of a team of workers. The medical investigation into long term incapacity for work was undertaken by the Department's Regional Medical Officers, with the help of the profession in Scotland; the late Dr. John Gilmour, O.B.E., and Dr. P. L. McKinlay were responsible for the medical arrangements connected with the Clyde Basin Experiment; Dr. T. Ferguson, Deputy Chief Medical Officer, organised and carried through the enquiry into the health and experience of persons invalided out of the Forces as unfit for further service; in this work, he had the assistance of Dr. A. E. Ferguson, who kept and analysed the detailed clinical records.

ANDREW DAVIDSON,
Chief Medical Officer.

Department of Health for Scotland,
Edinburgh. *July* 1943.

I

INTRODUCTORY REVIEW

War taxes a nation's manpower and invests fitness for work with new urgency. The prevention of incapacity from sickness or accident has a value that can be measured in terms of output, so that it becomes increasingly important to try to promote health and to deal with threatening breakdown while that is yet preventable ; and, as a natural corollary, to supplement, so far as possible, available resources for diagnosis and treatment.

Adequate treatment and rehabilitation can accomplish much. It has come to be realised, to an extent seldom appreciated in time of peace, that the disabled man may be a potential asset, even where complete restoration of function cannot be secured—provided always that to the best efforts of medicine are added an enlightened industrial approach and a determination to place the disabled in suitable work. This growing recognition of the essential relationship between health and industrial efficiency is one of the valuable outcomes of war, one of the present gains that surely must not be lost in times of peace.

It has been possible to carry out in Scotland in recent years a considerable amount of experimental work on certain aspects of the preservation and restoration of working capacity, and in view of the interest these experiments have evoked and their especial value at this time, this brochure has been prepared to set out the lines of approach adopted and, where possible, the results obtained, though these do not always lend themselves to early appraisal.

The background of incapacitating sickness.

The Central Health Departments have long been concerned at the extent of incapacitating sickness. In Scotland, sickness experience of the insured population has been analysed in detail since 1930 and a series of reports upon it presented annually by the Department of Health for Scotland. The experience of the year from 1st July 1937 to 30th June 1938 follows the general pattern of that previously observed and some of its salient features may be summarised. The estimated insured population during the year was taken as 1,838,000, or about 37 per cent. of the total population. (Juvenile contributors brought within the scheme of National Health Insurance at 4th April 1938 are not included.) The total volume of incapacity recorded during the year was 25,875,264 days, an average of 14·08 days per insured person as compared with 14.92 days in 1936-37. The number of cases of influenza during the year was small, only 44,000 as against 132,000 in the previous year ; excluding influenza, the number of new cases of incapacity arising during the year was 373,000, equivalent to a rate of 203 per thousand of the insured population. Incapacity which continued throughout the whole of the statistical year was responsible for 11,331,060 days or 43·8 per cent. of the total recorded incapacity as compared with 42·1 per cent. in 1936-37 : 31,044 insured persons were continuously incapacitated during the whole twelve months under review.

The rates of sickness among males increased with age from a minimum rate of 6·21 days per person per annum at ages 20–24, to 20·39 days at ages 50–54, 26·45 at 55–59, and 37·30 at 60–64. This experience is roughly paralleled in the case of single women ; for employed married women the rates are dominated by conditions associated with child bearing.

The relative importance of certain broad types of incapacitating sickness among insured males is shown in Table I, which deals with cases terminating within the year.

TABLE I.

Relative importance of certain types of incapacitating sickness—Males.

Attributed to		Percentage of total days of incapacity.
Disease of respiratory system		11·23
including influenza	1·69	
and bronchitis and pneumonia	5·40	
Diseases of circulatory system		5·72
Diseases of nervous system and special sense organs		9·11
Diseases of digestive system		6·40
including gastric and duodenal ulcer	1·76	
Rheumatic, muscular, and joint conditions		7·33
Diseases of the skin		3·16
including septic and inflammatory skin conditions	2·05	
Tuberculosis		3·94
Neurasthenia and Neuroses		1·48
Injuries		6·84

Among women the proportion of days lost on account of the group of rheumatic conditions, and on account of tuberculosis was relatively higher than for males, while for injuries the figure was considerably lower.

The average duration of incapacity lengthened with advancing age of the patient, and this was true of all the principal disease groups, as is brought out in Table II, which deals with the same mass of male incapacity as does Table I.

TABLE II.

Terminated incapacities—Males. Average duration in days.

Disease group.	Age.		
	-30	30-	50-
Tuberculosis, all forms	417	703	958
Diabetes	142	182	331
Anaemia	33	66	160
Influenza	12	14	17
Bronchitis and pneumonia	27	50	84
Gastric and duodenal ulcer	64	102	119
Gastritis	18	32	36
Appendicitis	48	54	82
Hernia	59	73	113
Septic and inflammatory skin conditions	16	22	38
Specified skin diseases	32	52	63
Rheumatic, muscular and joint conditions	30	38	77
Injuries	31	47	67
Neurasthenia and neuroses	94	185	375

Special interest attaches to the incidence of sickness current throughout the entire course of the year, since it obviously represents the hard core of incapacity. This long-term or “ chronic ” sickness accounted for no less than **43·8 per cent.** of the days of sickness of the total insured population—**44·7 per cent.** for males, **43·3 per cent.** for single women and **43·5 per cent.** for married women. The rates per thousand insured males of incapacities current over the year from some of the most formidable causes of incapacity are set out in Table III.

TABLE III.

Rate per 1000 insured males of certain types of incapacities current throughout the year.

	Total cases per 1,000 insured males.		Cases under 35 years of age per 1,000.	
Diseases of respiratory system		2·29		0·35
including bronchitis	1·48		0·18	
Diseases of circulatory system		1·97		0·25
Organic nervous disease and psychosis		4·16		1·25
Neurasthenia and debilities		1·25		0·34
Diseases of the digestive system		1·00		0·18
including gastric and duodenal ulcer	0·38		0·10	
Rheumatic disease of muscles and joints		1·77		0·30
Tuberculosis		1·63		1·11
Diabetes		0·12		0·04
Pernicious anaemia		0·03		0·00
Injuries		0·83		0·27

The age distribution of these cases of " chronic " incapacity is important in so far as it influences to a considerable extent the prospect of successful rehabilitation ; of such incapacities originating in 1936 and still current at 30th June 1938, **22 per cent.** were found to be under 35 years of age.

The chief contributors to this mass of long-term incapacity were mental and nervous diseases, rheumatism and diseases of the respiratory and circulatory systems. Many of these cases were long past any possibility of re-absorption into industry ; the problem was a serious one and in 1937–39 an attempt was made in Scotland to tackle it by reviewing the illnesses of insured persons as they came to be of three months duration to see whether anything could be done to help the patient and to preserve his capacity for work. This experiment was carried on for the two years immediately preceding the outbreak of war and during that period no fewer than 50,000 patients were dealt with under the scheme. It has not been found possible to analyse the vast accumulation of clinical data built up in the course of the experiment, but a random sample of 1,000 of the cases examined has been analysed in some detail and the results are presented in Chapter II.

An experiment in preventive medicine (" The Clyde Basin Experiment.")

The war brought new problems and with increasing recognition of the importance of preventing the breakdown of workers—especially of young workers—the Clyde Basin Experiment was launched at the beginning of 1942. The idea was that general practitioners should be invited to refer for further investigation young workers about whose health they were concerned ; sometimes the reference was prompted by industrial medical officers whose co-operation had been sought. In its early stages the experiment was confined to workers under the age of 25 and to the densely populated Clydeside area. Patients so referred were examined by consultants where necessary and if it was felt that further investigation was indicated, they were admitted for it to hospitals of the Emergency Medical Service. Patients requiring a period of convalescence to prevent breakdown in health were sent to one of the country houses functioning as auxiliary hospitals in the Emergency Hospital Scheme. Cases referred for examination under the scheme were often found to be suffering from these conditions of debility and vague ill-health that so severely prejudice wellbeing and working efficiency without necessarily causing complete breakdown and absence from work. The experiment was a success. In the course of a year it dealt with some 1,400 young people and at the end of the year it was extended to cover workers of all ages in the entire Scottish industrial belt; by the end of June 1943, the total number of persons dealt with under the Scheme had risen to 4,126. Detailed analysis has been made of the first 1,200 cases dealt with in the Clyde Basin Experiment and this experience is presented in Chapter III.

An attack on the "Waiting Lists" of voluntary hospitals.

An investigation carried out among the insured population some years ago with the co-operation of Scottish doctors demonstrated that while, in general, there was no delay in securing admission to hospital for acute cases in need of it, there were long waiting periods before admission could be obtained for some other conditions, which though less pressing yet detracted from the health and well-being of the community. Among such conditions were diseases of the nose and throat, hydrocele, and varicocele (in all of which the average delay was over 8 weeks), varicose veins, haemorrhoids, chronic appendicitis and gynaecological conditions. As it happened there became available in Scotland a substantial number of hospital beds provided by the Emergency Medical Service to meet casualty requirements, but fortunately not immediately needed for that purpose, and it was decided to use some of these beds to relieve waiting list pressure on voluntary hospitals.

In January 1941, voluntary hospitals were invited to refer for admission to hospitals established under the Emergency Medical Service such of their waiting list cases as they cared to submit, necessary financial arrangements having been agreed with the hospitals concerned. Reports have been received covering the period from the inception of the scheme to February 1943. During that period 11,518 cases* were admitted to Emergency Medical Service hospitals under the scheme—7,762 in the Glasgow area, 2,195 in the Edinburgh area, 1,337 in the Dundee area, 160 in the Aberdeen area and 44 in Inverness. Complete information is not available about the length of time these patients had been on the waiting lists of the "sending" hospitals, but it is clear that a considerable proportion of the cases referred had been awaiting treatment for more than three months. The classification of the disabilities in over 10,000 of these cases is summarised in Table IV.

TABLE IV.

Cases admitted to Emergency Medical Scheme Hospitals under the Waiting List Scheme.

Area.	Nature of Disability.						
	Medical.	Surgical.	Gynaecological.	Paediatric.	E.N.T.	Orthopaedic.	Other.
Aberdeen	17	94	25	—	1	20	3
Dundee	79	451	194	—	94	4	1
Edinburgh	370	1,230	455	—	119	108	13
Inverness	6	2	27	—	—	7	2
Glasgow	1,100	3,617	1,242	784	423	65	19
	1,572	5,394	1,943	784	637	204	38

Total=10,572.

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* From the beginning of this arrangement until the end of June 1943, the total number of names removed from the Waiting Lists of voluntary hospitals was 16,080.

The patients were essentially young people, more than half of them being under 36 years of age. Fully 50 per cent. of the cases were surgical. In rather more than half of the cases treated the duration of stay in hospital was less than three weeks and on discharge from hospital the great majority of the patients went back to their own homes. Just over 1 per cent. were transferred to other " acute " hospitals, and rather less than 1 per cent. were transferred to convalescent homes or auxiliary hospitals.

Socio-industrial problems following discharge from the Services.

Another Scottish experiment involved study of the health and working experience of 1,000 consecutive men and women invalided out of the Forces as unfit for further service. A preliminary survey carried out in 1941 had shown that, left to themselves, these people fared badly socially, medically and in relation to work. The majority required medical care for the condition responsible for their discharge and six months after leaving the Services 27 per cent. were still unemployed, while of those who were in employment only one-third had gone back to their old work. These findings pointed to the need for further investigation and, in 1942, there was carried out a more extensive follow-up based on the framework of the Interim Scheme of the Ministry of Labour and National Service for the training of the disabled, amplified in the light of earlier experience. Chapter IV contains an account of this investigation and of the results obtained.

An experiment in the field of rehabilitation.

Rehabilitation affords one of the best examples of social medicine. In 1942 the Department issued to Scottish hospitals a comprehensive memorandum (prepared by Mr. R. I. Stirling, F.R.C.S.) urging the institution of rehabilitative measures as early as possible in the course of treatment ; the recently published White Paper on Coal (Cmd. 6364), with its adumbration of the development of rehabilitative measures, afforded the Department another opportunity of participating in an effort directed to restoration of full physical health and working efficiency. At the request of the Ministry of Fuel and Power and the Miners' Welfare Commission, part of Gleneagles Hospital was made available at the beginning of 1943 for use as a Fitness Centre for miners.

Rehabilitation implies three main considerations :—

(i) the provision of adequate and efficient medical and surgical care with ancillary services such as physio-therapy in its various forms—the **physical aspect ;**

(ii) the development and encouragement in the patient of the will to get well—the **psychological aspect ;**

(iii) the resettlement of the patient in industry—the **social aspect.**

The aim of the Gleneagles Fitness Centre is to get sick and injured miners back to their work in the pits at the earliest possible moment. It provides physio-therapy, occupational therapy, remedial exercises and physical training in a residential centre with ample recreational facilities : the whole is designed to promote and maintain not only physical recovery, but the mental attitude to recovery that so largely determines fitness for work. In the first instance, patients were received into the Centre from general hospitals and from miners' convalescent homes ; more recently, as the Centre developed, general practitioners in mining areas have been invited to submit to the Medical Superintendent applications for the admission of suitable cases. It has been made clear that the Centre is willing to accept any miner who seems to offer prospect of being made fit to return to work at a reasonably early date ; the only other stipulation is that the men admitted must have passed the stage of requiring nursing care.

Some account of the administrative structure and further technical information about Gleneagles Fitness Centre is presented in Chapter V. It is as yet too early to say how satisfactory the results of treatment there may be, but it seems clear that fitness centres of this type can play a very considerable part in promoting return to working capacity.

II

LONG-TERM INCAPACITY FOR WORK.

In 1937 the Department of Health for Scotland launched an investigation designed to see what could be done to minimise the amount of long-continued incapacity for work. The general aim was to obtain information about the nature of long-term sickness and to find out how far consultant services and special diagnostic and treatment facilities were readily available and utilised. It was felt that there might be directions in which the Regional Medical Service of the Department could assist by providing a second opinion, or by helping to secure supplementary diagnostic or remedial measures. Following discussions with representatives of the medical profession and of approved societies, a procedure was worked out in terms of which approved societies notified to the Department all cases in which insured persons remained continuously incapacitated for thirteen weeks. Unless the patient was receiving in-patient treatment in a hospital or other institution, the appropriate Regional Medical Officer invited the insurance practitioner to furnish him with a report on the history and condition of the case. The form of report is reproduced in Appendix I. When he received the report from the doctor the Regional Medical Officer decided whether examination of the patient by him was likely to serve any useful purpose and in about one-fifth of the cases he arranged, in co-operation with the insurance practitioner, for the examination of the insured person either by himself or by a suitable consultant or specialist.

In the two years for which the investigation was in progress immediately before the outbreak of war, approximately 50,000 cases were reviewed. As has been explained it has not been found possible, on account of war conditions to analyse the mass of clinical material emerging from the investigation, and the following notes have been prepared in the main from an analysis of 1,000 examined cases. There is no reason to believe that the sample was not a fair one, but statistical conclusions drawn from these cases cannot be applied to the population as a whole as they were doubly selective—as regards population and sex and as regards type of sickness. Severe fatal diseases were obviously largely excluded from the examined cases and therefore such conditions as cerebral haemorrhage and malignant diseases occupy a smaller place than they would in general statistics of morbidity.

With these reservations the chief points of interest which the case notes brought out were :—

1. The age distribution of patients suffering from the various diseases coming under the review of the Regional Medical Officer.
2. The type of case with which the Regional Medical Officer had to deal.
3. The extent to which in each area lack of facilities interfered with diagnosis or treatment.
4. The extent to which specialist and laboratory facilities were employed by Regional Medical Officers.
5. The nature of the advice given by the Regional Medical Officers to general practitioners.

6. The type of case in which psycho-therapy was recommended by Regional Medical Officers.

7. The findings of the Regional Medical Officer in respect of fitness for work.

8. The assessment of probable restoration of working capacity.

9. The nature of the disability in relation to employment in the case of those who appeared to be permanently incapacitated.

10. Information about the extent to which the resources of hospital treatment had been utilised.

1. Age-sex distribution of cases.

TABLE I.

	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	Total
Males . .	27	44	44	58	59	72	42	62	82	90	580
Females .	25	71	42	42	42	54	38	40	32	34	420
	52	115	86	100	101	126	80	102	114	124	1,000

Forty-five per cent. of the cases were less than 40 years of age, so that the series seemed to offer prospect of doing something to prevent many of these people from drifting into chronic incapacity.

2. Classification of examined cases according to the diagnosis of the Regional Medical Officer.

TABLE II.

	All cases.	Under 40 years of age.	Over 40 years of age.
Diseases of heart and vessels (except cerebral haemorrhage)	134	24	110
Cerebral haemorrhage, thrombosis . .	14	3	11
Other organic disease of C.N.S.	26	9	17
Respiratory disease—			
Upper respiratory tract	12	11	1
Pulmonary T.B.	11	4	7
,, suspected . . .	12	9	3
Asthma	19	10	9
Pulmonary fibrosis	5	1	4
Bronchitis and other respiratory diseases .	71	30	41
Gastric and duodenal ulcer . . .	46	26	20
Other alimentary diseases	62	35	27
Psychoneurosis : hysteria	83	49	34
Psychosis and other mental conditions .	8	2	6
Fractures	35	16	19
Other accidents	42	21	21

TABLE II—*continued.*

	All cases.	Under 40 years of age.	Over 40 years of age.
Diseases of bone	10	5	5
Deformities	7	6	1
Diseases of joints—			
Osteo-arthritis	17	2	15
Rheumatoid arthritis	13	3	10
Acute and sub-acute articular rheumatism	20	11	9
Other arthritic diseases	23	10	13
Diseases of muscles and peripheral nerves—			
Lumbago	9	2	7
Fibrositis	15	4	11
Muscular rheumatism	9	1	8
Sciatica	17	10	7
Other forms of neuritis	18	7	11
Menopausal conditions	21	0	21
Other diseases of reproductive system	50	27	23
Skin conditions	38	27	11
Blood diseases—			
Primary anaemia	3	1	2
Secondary anaemia	32	23	9
Other	1	—	1
Disease of ductless glands—			
Thyroid conditions	14	9	5
Diabetes	12	6	6
Other	3	2	1
Diseases of urinary system	25	16	9
Disorders of special sense organs—			
Eyes	16	6	10
Ears	7	5	2
Other defined conditions	40	21	19
Total	1,000	454	546

Diagnosis as recorded at the end of three months may not reflect the nature of incapacitating sickness throughout the three months. There was, for instance, one patient who went off work to have an operation for hernia and subsequently developed incapacitating fibrositis, another who suffered in succession from lumbago, influenza and duodenal ulcer with a convalescent holiday between the two last named, and so on. Further, the cases classified as psychc-neurosis did not by any means exhaust the number in which there was a psycho-neurotic element.

3. The extent to which general practitioners stated that lack of facilities hampered diagnosis or treatment.

TABLE III.

Difficulty or delay in securing	Region.				
	Glasgow.	Edinburgh.	Aberdeen.	Dundee.	Total.
Admission to general hospital	22	6	6	3	37
Admission to ear, nose and throat hospital	5	2	–	2	9
Admission to hospital for nervous disorders	–	–	–	1	1
Physio-therapy	6	5	7	–	18
Psychological investigation and treatment	3	2	3	4	12
Cardiologist advice or Electro-Cardiogram	11	2	–	–	13
Complete blood examination	3	–	–	1	4
Protein tests ; desensitisation	3	–	–	1	4
Dental treatment	4	–	1	1	6
Spa treatment	1	–	1	1	3
Surgical appliances	2	–	–	1	3
X-ray	1	2	–	–	3
Test meal	2	–	–	–	2
Occupational therapy	–	1	–	–	1
Convalescent Home treatment	–	–	–	1	1
Advice of Consultant Surgeon	1	–	–	–	1
,, ,, Physician	–	1	–	–	1
,, ,, Dermatologist	1	–	–	–	1
,, ,, Neurologist	–	–	1	–	1
,, ,, in Tuberculosis	–	–	–	1	1
Microscopical examination of urine ? tuberculosis	–	1	–	–	1
Rehabilitation after accident	–	1	–	–	1
	65	23	19	17	124

The outstanding difficulty was undoubtedly in securing admission to hospital, particularly in the West of Scotland. There was, for instance, a patient suffering from duodenal ulcer who was sent to one out-patient department three times at intervals and each time promised early admission, but was still waiting at the end of three months, and other cases where patients had been on waiting lists for three, four and five months, or even longer, who had not yet secured admission to hospital. Lack of facilities for physio-therapy was more serious in country districts than in cities. Some of these country patients could not afford to pay fares to the cities ; some were physically unfit to travel, while others had to travel thirty to fifty miles each way at great expense and personal discomfort. It was found that consultant and laboratory facilities for out-patients could usually be obtained in cities at hospital out-patient departments, but it sometimes happened that patients at a distance from a hospital could not afford to travel there for consultation. There was general complaint that it was well-nigh impossible to secure admission to hospital for ambulant patients.

4. Extent to which specialist and laboratory facilities were directly employed by Regional Medical Officers.

In 89 of the 1,000 cases patients were referred by the Regional Medical Officer to an appropriate specialist—43 to cardiologists, 13 to radiologists, 10 to oto-rhino-laryngologists, 9 to ophthalmologists and smaller numbers to neurologists, gynaecologists, psychologists, tuberculosis officers and general physicians. Further, in 24 of the 1,000 cases laboratory procedures were carried out by the Regional Medical Officer—13 test meals, 7 complete blood examinations, 2 microscopic examinations of urine, 1 urea concentration and 1 blood sugar estimation ; and in addition to these laboratory investigations much routine side-room work was carried out at the Regional Medical Offices—urine examination, determination of blood pressure and haemoglobin values, ophthalmoscopic examination, etc.

5. The advice given by the Regional Medical Officers to practitioners regarding their patients.

The nature of the advice given is summarised in Table IV.

TABLE IV.

General Hospital investigation or treatment advised		48
Psychological investigation or treatment		47
Re general (medicinal) treatment at home		40
Change of work—		29
on psychological grounds	12	
on other grounds	17	
Massage, electricity or radiant heat		19
X-ray investigation		19
Return to work—		17
on psychological grounds	16	
on other grounds	1	
Convalescent Home		14
Dietetic control		14
Hygienic		13
Reference to Gynaecologist		10
Dental treatment		9
Ear, nose and throat treatment		8
Extra nourishment		7
Reference to Tuberculosis Officer		6
Rest		5
Provision of surgical appliances		4
V.D. treatment		4
Graduated exercises		4
Abstention from surgery		3
Reference to Cardiologist		3
Reference to Urologist		3
Settlement of compensation claims		2
Supervision qua suicide		2
Dermatologist		2
Wassermann Reaction		2
Others (protein tests, orthopaedic treatment, hearing aids and lip reading, respiratory exercises, etc.)		16
		350

These figures include only cases in which the Regional Medical Officer advised a new line of approach.

6. The types of case in which psycho-therapy was recommended by Regional Medical Officers are indicated in Table V.

TABLE V.

Psychoneurosis, hysteria, neurasthenia or anxiety state	16
Sciatica, lumbago, fibrositis	6
Chronic bronchitis	3
Arthritis	2
Traumatic neurasthenia	2
Asthma	2
Peptic ulcer	2
Myocarditis	2
Mastitis	2
Hyperthyroidism	2
Cranial neuralgia	2
Other conditions	6
Total	47

In addition 16 patients were advised to return to work and 12 to change their occupation on psychological grounds. Two of the latter were females who were afraid of machinery, 2 were afraid of working at heights, 2 required a change of environment because of incompatibility with persons with whom they were associated in their work.

7. Fitness for work.

The Regional Medical Officer's estimate of capacity for work in these 1,000 cases was—Unfit, 855 ; Fit, 109 ; Fit for alternative employment, 36.

8. Probability of restoration to working capacity.

In the opinion of the Regional Medical Officers who saw the cases, 790 of the patients had a reasonable probability of returning to work, 95 had no prospect of such return, while in 115 cases the issue was doubtful. Of these 115 where the probability of restoration to working capacity was regarded as doubtful, a considerable number seemed likely to be able to work for a limited time or intermittently. (A more extended analysis of prognosis in relation to work in 6,996 of the cases surveyed in this investigation is presented in Appendix II.)

9. Patients not likely to work again—age-sex distribution.

The age-sex distribution of the 95 patients not likely to work again is shown in Table VI : 11 of the 95 were under 40 years of age.

TABLE VI

	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	Total.
Males	–	1	–	3	3	3	4	11	13	29	67
Females	–	–	2	1	1	3	6	3	2	10	28

The nature of the incapacitating illness of these cases was :—

Disease of heart and vessels	41
Cerebral haemorrhage, thrombosis	11
Other diseases of central nervous system	12
Respiratory disease	13
Malignant tumours	6
Injuries	2
Nephritis	2
Muscular dystrophy	2
Other defined conditions	6
	95

The age-sex distribution of the patients whose prospect of restoration to working capacity was regarded as doubtful is shown in Table VII.

TABLE VII.

	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	Total.
Males . .	1	3	5	6	4	6	6	12	18	18	79
Females .	3	2	3	2	2	6	4	3	5	6	36

The diagnosis in these 115 cases is set out below. 31 of the patients were under 40 years of age.

Diagnosis.	
Cardiovascular disease	43
Hysteria, mental instability, ? psychosis	21
Arthritis, all forms	14
Organic disease and probable organic disease of central nervous system	10
Pulmonary disease	8
Suspected malignant disease	5
Diseases of ductless glands	3
Syphilis	3
Others	8
Total . . .	115

The age-sex distribution of patients requiring change of occupation is shown in Table VIII.

TABLE VIII.

	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	Total.
Males . .	3	3	5	5	4	10	7	3	7	6	53
Females .	–	3	1	3	5	1	2	4	3	3	25

Thirty-two of the 78 patients concerned were under 40 years of age. These cases are of special interest in the light of developing conceptions of rehabilitation.

10. Hospital treatment.

Of the 1,000 patients under review it was found that only 371 had not received in-patient or out-patient care during their current illness. At the time of examination 181 were receiving out-patient treatment. As explained, the enquiry did not embrace patients who were actually receiving in-patient treatment when they completed three months incapacity. The number of cases who were not at the time of examination receiving hospital treatment, but who had already had such treatment during their current incapacity was 546, of whom 339 had been treated as in-patients and 207 as out-patients. Of the 207 who attended as out-patients, 36 attended for consultation only. It was found that in many cases there had been inadequate communication to the general practitioner of the results of hospital care. When a practitioner sent a patient to a hospital out-patient department for a single consultation he usually received a report from the hospital, but lack of co-operation was apt to arise when the hospital undertook treatment, in-patient or out-patient. It then too frequently happened that the practitioner was not informed of the progress of the case, sometimes even of the diagnosis ; in some cases he was dependent on such information as the patient himself could supply when he came to collect his certificate of incapacity. This lack of co-operation sometimes prejudiced the treatment of the patient. There was, for instance, a case of fracture of the olecranon, where the practitioner continued to certify incapacity, believing that the patient was receiving treatment as a hospital out-patient ; the patient still required physio-therapy, but had not attended the hospital for a month. Another case of carcinoma of the stomach was referred by the practitioner to the out-patient department of hospital A. In-patient treatment was recommended, but the patient hesitated to enter hospital and the practitioner, having no information from the hospital, did not press treatment. Later the patient consented to enter hospital B where the diagnosis was missed and the patient sent home. The condition was subsequently diagnosed in the course of this investigation, but when ultimately the patient came to operation the condition was found to be inoperable.

In some instances this lack of co-operation led to certification difficulties. In one such case the practitioner thought that a patient suffering from dermatitis could work at an alternative occupation and wrote to the hospital out-patient department enquiring on the point ; but no reply was received. In another case where the patient alleged that he had displaced a knee cartilage, the practitioner thought there was nothing wrong with the knee, but continued to certify incapacity because the patient informed him he was being treated for displaced cartilage at a hospital out-patient department. The Regional Medical Officer and the surgeon specialist confirmed the practitioner's opinion and the patient was declared to be fit for work.

11. Conclusion.

This enquiry confirms the value of periodic review of incapacitated persons : it suggests the importance of having specialist advice readily available : it emphasises the need for co-operation between the general medical practitioner, the Regional Medical Officer and the specialist, while it indicates that appraisal of working capacity may call for specialist help.

APPENDIX I.

Form of medical report.

FORM M.R. 4.

DEPARTMENT OF HEALTH FOR SCOTLAND.

Serial No.

Doctor's No.................

Date of issue to doctor...............................

DR.

Date of receipt from doctor........................

Department's Reference Number

Name of Patient..Sex...................
Occupation... Status.......................
(Women only)
Approved Society.. App. No.........................
Membership No.. Year of Birth...................................
Date of completion of 13 weeks incapacity..
Nature of current incapacity...

Report by Certifying Practitioner.

NOTE.—The aims of this investigation have been set out in Memorandum I.C. 249/37 *(Scotland) circulated to Insurance Practitioners. Generally, it is desired to obtain information about the nature of long-term sickness and about the types of case that seem likely to lead to chronic invalidity. At the same time it is desired to find out how far consultant services and the use of special diagnostic and treatment facilities are utilised and readily available and to what extent and in which directions such services are required further to increase the usefulness of the Regional Medical Service. It is felt that there may be cases in which the Regional Medical Service can assist by providing a second opinion or by helping to secure supplementary diagnostic or remedial measures.*

This form should be fully completed whether a Final Certificate has been issued or not, and returned to the Regional Medical Officer within seven days.

Here insert Address of Patient. ....
....

1. Previous related illnesses or incapacities :—
   Diagnosis. *Duration.* *Year of Occurrence.*

2. History and circumstances of present illness with causal factors so far as known.

3. Present symptoms and physical signs.

4. Diagnosis.

5. What special diagnostic methods (radiological, bacteriological, biochemical, etc.) have been employed ?

   Please indicate result of any examination made.

6. Treatment of present illness :—

   In-patient Hospital Treatment (with duration).

   Period of waiting for admission after application.

   Out-patient hospital or other clinic.
   Please specify type of treatment and duration.

7. Has a consultant opinion been obtained ? If so, please indicate nature of advice given.

8. What other consultant or ancillary measures do you consider might facilitate diagnosis or treatment in this case ? Please indicate any difficulty in obtaining such assistance from financial or other reasons.

9. Is the patient fit to travel for any necessary examination ?

10. Any further observations by practitioner. (It would be helpful if doctors tried to estimate the future working capacity of the patient.)

Date.................................... *Signature of Practitioner*..

APPENDIX II.

Prognosis in 6,996 cases of incapacity lasting at least 3 months.

Prognosis.	Numbers.			Percentage.		
	M.	F.	Total.	M.	F.	Total.
Early recovery	1,919	1,763	3,682	47·3	60·0	52·6
Relapsing incapacity . . .	963	581	1,544	23·7	19·8	22·1
Prolonged, but with prospect of return to work . . .	404	306	710	10·0	10·4	10·1
Permanent incapacity . .	755	273	1,028	18·6	9·3	14·7
(Not stated)	19	13	32	0·4	0·4	0·5
Total . . .	4,060	2,936	6,996	100·0	99·9	100·0

III

A NOTE ON THE WORKING OF THE CLYDE BASIN EXPERIMENT.

The Strain of War

Experience has demonstrated that the circumstances of War may well place severe strain on the health of the civilian population and especially on the health of young people. During the last war, concern was chiefly with tuberculosis and other infections diseases, nutritional disorders and anxiety states (not then so well recognised) together with all the problems of industrial fatigue and accidents, so energetically investigated by the Health of Munition Workers Committee and its successors. In this latter connection the futility of excessive hours of work was clearly demonstrated, leading as it does not only to diminished rate of production but to diminished total output, increased spoilage of work, greater frequency of accidents and an increase in general sickness incidence. Fatigue states together with dietetic restrictions were held to be responsible in great part for the increase in tuberculosis incidence and mortality. At the beginning of this war these lessons were forgotten, and it seemed likely that similar results would be produced. In addition there are present other factors leading to physical and mental stress, fatigue and breakdown. Intensified black-out conditions favour increased road and other kinds of accidents, make travelling more than ever an ordeal and diminish efficient ventilation, domestic and industrial, thereby encouraging the spread of infection and lowering general health and resistance. Air raids and the fear or expectation of them are further exciting causes of some at least of the anxiety-based incapacity for work.

Available facilities for early diagnosis and treatment.

In view of these considerations the question arose whether anything could be done to minimise health breakdown. It happened that hospital beds could be made available for convalescence under medical supervision and the Clyde Basin Scheme was introduced with the object specifically and primarily of providing such facilities. Since direct reference by practitioner or patient to convalescent home was impracticable, and a skeleton Regional Medical Officer service was already operating in the West of Scotland, arrangements were made whereby that service might be utilised for the initial examination of patients referred by insurance practitioners. In any case, since the symptomatology of debility and fatigue is common alike to physical and mental stress and to early organic disease with few diagnostic clinical signs, the scheme would have been of little use and of less medical interest without the provision of initial thorough medical overhaul. It was, therefore, decided to add to the convalescent facilities, (*a*) beds in two base hospitals, Law and Killearn, and (*b*) a panel of specialists to whom patients could be referred. In view of the nature of the cases seen, where further diagnostic or specialist help was considered necessary, it was usually felt advisable to refer the patient to hospital, since in such cases it is not always apparent which specialist's help should be invoked and multiple references would merely cause delay and irritation (and expense). At the beginning of the scheme patients sent in the first instance to Base Hospitals were, where necessary, retained there for convalescence. Latterly, however, and ideally, retention in Base Hospital has only been for long enough to allow of a complete examination by all necessary diagnostic and specialist facilities with, if necessary, subsequent transfer to a convalescent home.

For reasons noted later, there were included in the scheme some patients, referred under ordinary National Health Insurance procedure on the question of capacity for work, who seemed to be of the type desired under the scheme. In such cases the suggestion was made as a postscript to the report to the insurance practitioner and, when consent was obtained, the necessary action was taken.

Scope of the Experiment.

For the first 11 months the scheme was nominally restricted in respect of age, geography and occupation—in age to young adults, geographically to the three counties of Renfrew, Lanark and Dunbarton, with the contained Large Burghs, and occupationally to essential war workers. There was (rightly) a certain laxity in the first and last respects. The initial geographical restrictions were enforced chiefly to limit demands on medical man-power.

The original scope of the scheme has been extended to include cases of repeated incapacity for work with vague, indefinite diagnosis and especially these cases in which there was difficulty in obtaining specialist help. Included also were certain broad groups of cases (*a*) debilities following well-defined illnesses such as pleurisy, bronchitis, influenza, etc., where admission was likely to expedite recovery of fitness for work and to permit of follow-up if desired, (*b*) cases requiring convalescence under medical supervision where otherwise sufficient facilities were not readily available (e.g. rheumatic fever, chorea), and (*c*) easily labelled states where neither diagnosis nor treatment were in doubt but where etiology was; these are typified by recurring dyspepsias, peptic ulcers, anxiety states, asthma, etc., where the only hope of prevention of recurrence of the trouble is the ascertainment—and, if possible, the elimination—of the causative factor. The time and equipment often required to study the several possible factors make hospital admission at the early stages of such recurrent illnesses valuable.

A few cases of suspected malingering were admitted deliberately. The confirmation afforded by complete hospital overhaul is of great help to the doctor in such cases in immediate disposal and later handling. Similarly for patients with fears of serious disease of an unspecified kind, hospital admission was arranged and the reassurance from negative findings has been found to be a potent factor in immediate therapy and prevention of recurrence.

Difficulties encountered in the early days.

The attention of the profession was drawn to the scheme in the first instance by a letter addressed to all practitioners in these areas by the Secretary of State. In this letter attention was drawn to the fact that the health of the people was causing concern and to the general objects of the scheme. The immediate response numerically was poor, and later a personal letter outlining in greater detail the advantages of the scheme and indicating suitable cases for reference was addressed to doctors by the Senior Regional Medical Officer. Again the response was rather disheartening. A more direct approach was clearly necessary, and, with the help of a small advisory committee (the membership of which was suggested by the British Medical Association) local meetings of practitioners were held, the provisions of the scheme were fully indicated and frank discussion invited. Attendances at meetings were usually poor, but discussions were on the whole stimulating and useful, and were followed by an increased number of references. There were many queries about tuberculosis. It had to be pointed out that the scheme was in no way intended to supersede the existing local authority provisions and that patients who in the ordinary way would have been sent there for consultation should still first be sent there. In the event of negative findings, reference to the Regional Medical Officer might be made with indication that this prior consultation had taken place. Consultations were held with the Tuberculosis Officers in the areas concerned and they were asked to keep in mind the benefits of the scheme for patients referred to them. In this way the attention of practitioners was further drawn to the scheme in such cases as tuberculosis contacts whose general health was under par and patients who on examination were found free from tuberculosis but in need of convalescence or a period of observation. Reciprocally it was hoped that patients diagnosed as tuberculous under the scheme would be brought to the notice of Tuberculosis Officers with a view to the early institution of sanatorium treatment.

In addition to meetings with practitioners it was found possible to organise a few visits to the Base Hospitals by groups of practitioners. These visits afforded an indication of the type of hospital, situation and facilities available and were much appreciated, but obviously they could not be carried out on any large scale.

In view of the fact that suitable selection of patients before incapacity arises can often be made by factory medical officers, contacts were made with them and their collaboration solicited : but in practice the vast majority of references have been initiated by the family doctor.

It cannot be taken that the number of references in any way indicates the actual numbers who might have benefited thereby. A number of patients referred to the Regional Medical Officer on the question of capacity for work were of a type regarded as suitable for investigation under the new experimental scheme. By the time reference was made in these cases recovery had often taken place ; but, where incapacity continued, the doctor's attention was drawn to the suitability of the patient for further investigation or for convalescent treatment, and if he agreed, admission was arranged.

At the inception of the scheme it was thought that some opposition to it might be met from the reluctance of employers to release workers for necessary investigation and convalescence on the score of interference with production. Visits were made to enlist the support of the managements of some of the larger factories, and there is no evidence that opposition from employers has prejudiced the extent to which the scheme was used. That the scheme has not been more fully taken advantage of is probably due rather to certain difficulties that have weighed with potential patients, some economic, arising from unwillingness to lose wages ; some domestic, from the conflicting claims of home responsibilities ; some associated with an inherent dislike of hospitals ; some from patients' belief that they were not ill enough to require admission to hospital. It is not always easy to get patients to appreciate the advantages of preventive medicine.

Mechanism.

1. Initial reference is invariably from the patient's own doctor, but, as stated previously, the practitioner's attention may be drawn to the case by Tuberculosis Officer or factory medical officer. The reference form designed at the outset was kept as simple as possible in view of frequent complaints that doctors were already overwhelmed with clerical work. No report is, therefore, sought from the doctor though it must be recognised that no scheme can really exert its maximum usefulness unless a full account is given of what is already known about previous history and present clinical condition and also reasons for reference. The time of the Regional Medical Officer has to be spent, often superfluously, on extensive interrogation before the case can be focussed adequately and assessed with respect to (*a*) etiological and predisposing factors, (*b*) immediate nature of the disability, (*c*) likelihood of recurrence, and (*d*) further measures which require to be taken. Expecially in respect of (*a*), much relevent information is (and often can only be) known by the family doctor, patients being on occasion reluctant to divulge important information to a strange doctor.

2. Travelling fares and subsistence allowance (if necessary) are paid in all cases.

3. The general examination of the patient by the Regional Medical Officer includes in all cases the measurement of weight, height and haemoglobin together

with complete urine examination, general clinical overhaul of all systems with blood pressure estimations and, usually, ophthalmoscopic examination. Necessary side-room work is carried out.

4. If full diagnosis (including, where important, a sifting of etiology) is not satisfactorily obtained by (3), and it is felt that the case can be adequately disposed of by reference to a specialist this is done, e.g. when a question of heart involvement remains, reference is made to a cardiologist for electrocardiogram and opinion. The need for expert psychiatric guidance was acutely felt and arrangements made to secure such help. It is always considered essential, however, to exclude organic disease, and if the existence of this is suspected, hospital or consultant opinion is obtained.

5. At this stage in every case a report to the patient's doctor is made by the Regional Medical Officer, incorporating, where obtained, the results of specialist guidance and suggesting disposal or recommendations.

6. When a patient is admitted to hospital a comprehensive report is transmitted to the practitioner on the patient's discharge from the institution.

7. Where change of occupation is considered necessary, the Ministry of Labour is asked to take necessary action.

In a number of cases, either on Regional Medical Officer findings or subsequent to hospital overhaul, unsatisfactory factors of occupation were discovered and where considered responsible partly or wholly for the breakdown and, with their continuance, likely to cause recurrence of incapacity (or curtailment of life expectation), recommendations for suitable alternative occupation were made. At the commencement of the scheme, nothing more than recommendation could be made (the patient to a large extent being left to find such occupation on his own) ; but more recently effective co-operation with the Ministry of Labour and National Service has been secured in these cases.

Cases investigated.

The scheme was introduced early in January 1942 and until it was extended to other areas and all adult ages in November 1,401 references were made. The numbers distributed by month of receipt of reference are as follows :—

Month.	*Cases.*
January	23
February	49
March	51
April	175
May	150
June	152
July	96
August	158
September	175
October	219
November	153
Total	1,401

It will be observed that the flow of cases in the first three months of the scheme was small. Towards the end of March the series of meetings with practitioners began and this was followed by a satisfactory increase in references. Since the end of the third month, the flow of cases has varied somewhat, but apart from July has remained fairly steady at about 160 per month. The fall in July was probably due to three factors—holidays, seasonal improvement in health and (chiefly) the smallpox outbreak and consequent widespread vaccination in and around Glasgow.

A scrutiny of the reports of the first 1,240 of these 1,401 cases has been made for purposes of the present report. Their ultimate disposal is indicated thus :—

	Males.	*Females.*	*Total.*
1. Failed to appear	34	45	79
2. Hospital Waiting list cases	17	6	23
3. Referred to Local Authority for further action	15	17	32
4. Alternative occupation suggested	45	34	79
5. Fit for own work	77	87	164
6. Unfit for work	45	82	127
7. Others	3	1	4
8. Sent to convalescent home	44	125	169
9. Sent to base hospital	221	342	563
Total	501	739	1,240

Cases disposed of without admission to Institutions under the Scheme.

1. Of the 1,240, 79 failed to appear for examination. In some of these the reasons for failing to attend were explained in subsequent communications. Thus, 7 had been found to have active pulmonary tuberculosis, 1 tuberculous peritonitis, 1 recent pleurisy and 1 influenza, the diagnosis in both the latter cases having been changed to pulmonary tuberculosis; 4 had been referred on the basis of lung condition, and, their failure to appear may perhaps be presumed to be due to establishment of the diagnosis of tuberculosis. In some cases it would appear that simultaneous or prior reference to the Tuberculosis Officer was made, a positive finding obviating the need for further investigation. Other cases in which reasons were given later for non-appearance included early pregnancies and a variety of cases for which admission to hospital in the ordinary way had been arranged. In more than half of the cases failing to attend, however, no reasons were elicited.

2. *Waiting List cases.*—These 23 cases represented the familiar types of cases in which difficulty in early admission to hospital for treatment is often found—chronic duodenal ulcer, hernia, nose and throat trouble, and the like. In all these cases the procedure for expediting admission to hospital under the Department's Waiting List scheme was indicated to the doctor.

3. *Cases referred to Local Authority for further action.*—Of the 32 cases in this category the majority were cases of pulmonary tuberculosis. Of the 15 males, 11 suffered from pulmonary tuberculosis, 1 from tuberculosis of kidney, 1 from acute gonorrhoea and 2 cases from persistent diarrhoea (1 with valvular disease of the heart). Of the 17 females, 12 were cases of lung tuberculosis, 2 tuberculous glands, 1 tuberculous abdomen and joints, 1 diphtheria and 1 dysentery. The appropriate suggestions for disposal were made.

4. *Alternative occupation.*—In 79 cases change of occupation or change in locus of occupation was suggested. The majority of these suffered from fatigue syndromes or anxiety states with recurrent incapacities of similar nature or with etiology obviously related directly to factors in present occupation. Great care is necessary to ensure that change of employment is not too lightly recommended : but illustrative cases where there was little hesitation in recommending change of work were (*a*) an apprentice iron-moulder with rheumatic aortic and mitral disease, (*b*) established duodenal ulcer with difficulties in dieting owing to travelling, etc., (*c*) a girl suffering from mitral stenosis whose work with travelling involved being away from home fourteen hours a day, (*d*) an epileptic locomotive fireman and (*e*) industrial dermatitis with recurrent incapacity.

Twenty of the male cases in which change of employment was recommended were suffering from debility or anxiety states, the remaining cases being of widely different kinds—coronary disease, 1 ; hyperpiesis, 3 ; valvular disease of the heart, 2 ; recent fracture of skull, 1 ; asthma, 1 ; industrial dermatitis, 2 ; recurrent bronchitis, 5 ; duodenal ulcer, 1 ; early disseminated sclerosis, 1 ; anaemia, 1 ; myocardial degeneration, 1 ; epilepsy, 1 ; rheumatic conditions, 3 ; postural scoliosis, 1 ; eye condition, 1.

Twenty of the female cases suffered from debilities or anxiety states, the remainder from dermatitis, 2 ; accident proneness, 1 ; migraine, 1 ; duodenal ulcer, 2 ; valvular disease of the heart, 2 ; chronic or recurrent bronchitis, 3 ; anaemia, 2 ; hyperthyroidism, 1.

5. *Fit for work.*—This group comprised chiefly patients who (*a*) had had before reference a period of incapacity and at examination were considered to have fully recovered, (*b*) had been referred on questions of disease of certain systems with negative results, (*c*) had a phobia in respect of localised disease, or (*d*) had complained to doctor of unsuitability of present occupation and desired a change.

Of the 77 males in this group 20 showed nothing abnormal on examination and 30 others were patients with prior complaints of debility, strain, etc., now sufficiently recovered to resume work. The remainder were cases of bronchitis, 7 ; rheumatism, 4 ; upper respiratory conditions, 6 ; fear of tuberculosis, 2 ; recent injury or operation, 2 ; and single cases of duodenal ulcer, renal glycosuria, dental caries, anaemia, crops of boils and alcoholic neuritis.

Of the 87 females, 30 showed no signs of abnormality or history suggestive of having had any, and a further 35 had recovered from debilities or anxiety states. The remainder were cases of varied conditions, upper respiratory, dyspeptic and dental, etc., not incapacitating for work.

6. *Unfit for work.*—These were patients suffering from conditions justifying cessation of work and who, if suitable for disposal under the scheme, had refused to take advantage of the facilities offered or who were for some reason more suitable for disposal otherwise. The male cases included 11 diagnosed as suffering from debility, 4 neurosis, 3 each of hyper-thyroidism and severe anaemia, 7 of duodenal ulcer, 4 of chronic bronchitis and myocardial degeneration, 1 cardio-vascular degeneration with fibrillation, and single cases of other varied conditions—locomotor ataxia, diabetes, malignant disease of bowel, etc. Of the female cases, 30 were suffering from debility, 18 from severe anaemia, 7 from acute bronchitis, 5 from peptic ulceration, 4 from heart disease, 2 from exophthalmic goitre and individual cases from acute nephritis, epilepsy, chorea and acute rheumatism.

7. *Others.*—These represented a variety of cases—of sub-acute infective endocarditis, rheumatic pancarditis, acute nephritis and extensive septic adenitis with severe debility—for whom urgent treatment at local voluntary hospital was suggested and arranged.

In addition to the general examination of cases included in the above categories consultant services were provided or further side-room work carried out as follows :—8 males were referred to cardiologist for electro-cardiogram and opinion, 15 for chest x-ray, 1 for x-ray of spine, 2 to psychiatrist ; 8 had test meals, 2 full blood counts and film examination, 1 urea concentration test, 1 sugar tolerance curve : there was a single reference for specialist ear, nose and throat opinion. Of the 15 chest x-rays, 4 showed chronic bronchitis, 6 active tuberculosis, 1 indefinite activity while 4 were negative. Of the haemoglobin estimations carried out in 200 cases, 9 showed values under 80 per cent. (Haldane)—3 of 75, 3 of 70, 2 of 65 and 1 of 35 per cent.

Chest x-ray examination was carried out in 16 female cases, x-ray of foot in 1 ; 3 were referred to cardiologist, 2 to ophthalmologist, 9 had full blood count and film and 3 urea concentration tests. Of the 16 chest x-rays, 6 showed active tuberculosis, 1 thickened pleura, 2 chronic bronchitis and 7 nothing diagnostic (including 1 referred on account of recent chest injury). The routine haemoglobin estimations showed 68 with low values distributed as follows from a series of 220 cases :—

	75	30
	70	23
	65	6
	60	5
	55	1
	50	1
	45	–
	40	1
	35	1
Under	80	68

Cases admitted to Institutions.

8. *Cases sent directly to convalescent homes.*—Forty-four males and 125 females were admitted to convalescent homes operating under the Emergency Hospital Scheme. Of the males the vast majority were cases of debility, 5 were bronchitic, 2 post-influenzal and single cases of recent rheumatic fever, diphtheria, tonsillitis, pleurisy, appendicitis (post-operative) and catarrhal jaundice. There had been recent chest x-ray and/or sputum examination for tuberculosis in 4 cases, while 3 more such examinations (all negative) were carried out at the instance of the Regional Medical Officer before admission. In 14 cases reference was made either to excessive hours of work or to excessive travelling to and from work. All except one of these patients improved in general condition during their stay in the home, with relief of complaints, improved appetite, sleep, etc. Fourteen patients showed no change in weight during residence, 1 lost weight and of those who gained the average change was about 4 lbs. For the series of 34 cases the average gain in weight amounted to 1·8 lb.

Of 125 females admitted direct to convalescent home, 77 were cases of debility and a further 11 suffered from anaemia. The remainder comprised 4 convalescing from influenza 7 bronchitis and a variety of single cases with dyspeptic, gynaecological and other symptoms. Fourteen of the patients had had recent chest x-ray and/or sputum testing and a further 4 were investigated along these lines by the Regional Medical Officer. Full blood counts were done in 3 cases and electro-cardiogram in one. In 33 cases long hours of work and travelling were specially noted, in 3 cases the conditions seemed directly attributable to air raid experiences and in 5 to other obvious causes of mental stress. Reports on the patients at discharge indicated improvement in general condition in all except 3—one who was later referred to Tuberculosis Officer ; an early pregnancy with threatened abortion (transferred to maternity hospital) ; and a patient with haemoptysis. (This case had been referred by Regional Medical Officer for x-ray, the report stating that " there is no definite sign of tuberculosis or other active disease." Subsequent to haemoptysis, x-ray was carried out locally with report of consolidation with cavity.) Changes in weight were noted in 83 cases. Six patients lost weight and 50 gained. The average gain in weight of those who put on weight was 3·3 and of the total series 1·8 lbs. In 5 patients recommendation of alternative occupation subsequent to convalescence was made on account of repeated incapacity or accidents attributable to unsatisfactory conditions of work. In this series of 125, haemoglobin values below 80 per cent. (Haldane) were found in 23 cases as follows :—75 per cent., 10 ; 70 per cent., 11 ; 65 per cent., 2 cases,

9. *Cases admitted to hospital.*—The chief causes of disability found in the cases admitted to hospital are given in the table below :—

	M.	F.	Total
Debility	27	88	115
Anaemia	12	50	62
Anxiety states	24	19	43
Bronchitis	21	11	32
Tuberculosis—pulmonary, active	5	7	12
,, inactive	5	5	10
non-pulmonary	1	6	7
Rheumatic fever and carditis	14	15	29
Pleurisy	16	10	26
Peptic ulceration	15	5	20
Thyrotoxicosis and goitre	2	12	14
Asthma	11	2	13
Muscular rheumatism	7	7	14
Upper respiratory conditions	18	7	25

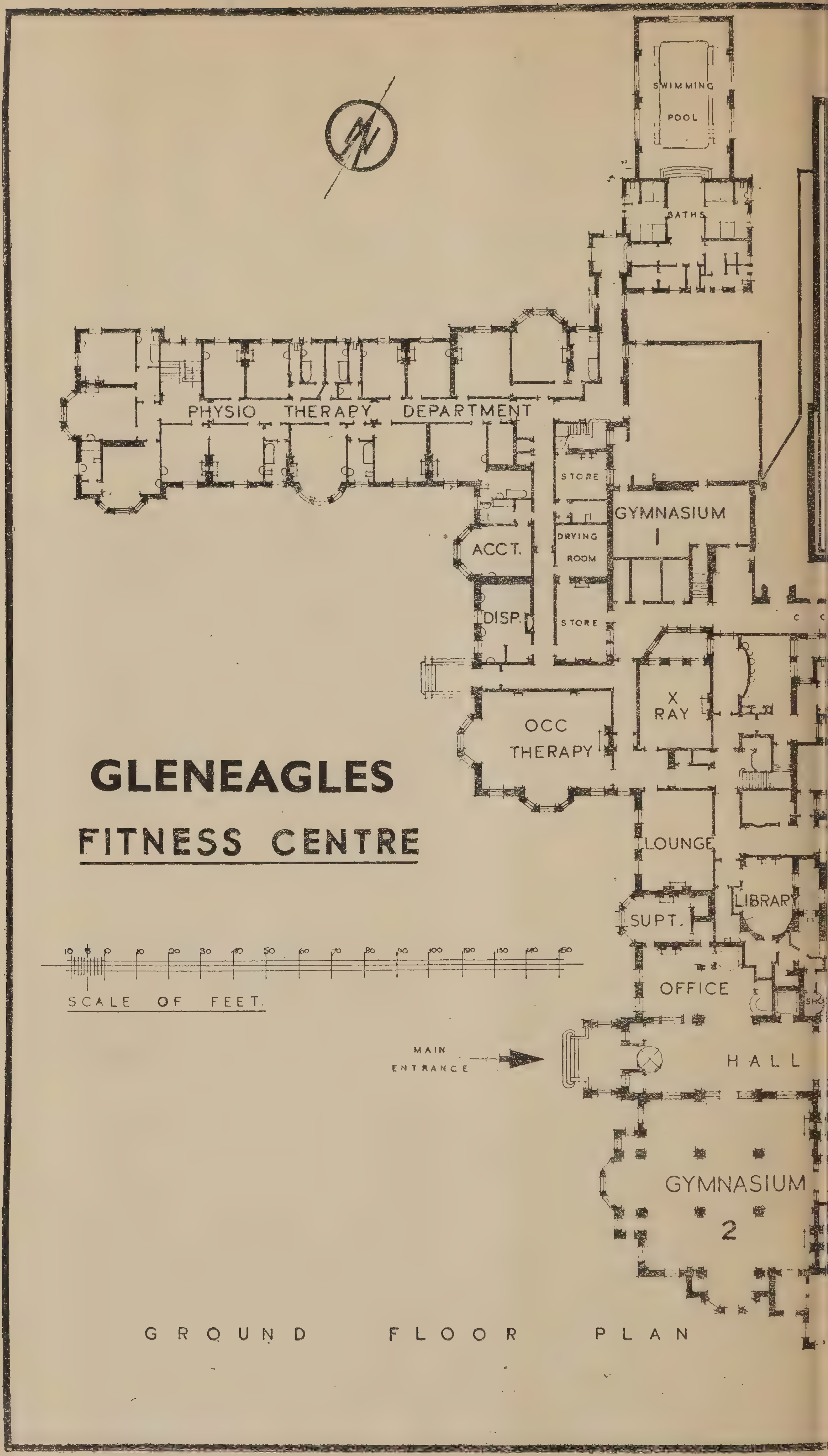
In the majority of these cases the diagnosis, although amplified, was not substantially altered. The proportion of tuberculosis cases found after hospital examination is, of course, no index of the frequency of this condition in the general run of cases of debility—prior precautions by both doctor and Regional Medical Officer to exclude tuberculosis in doubtful cases had been taken, as explained above.

In 35 of the patients (18 males and 17 females) alternative occupation was suggested and in 30 (19 males and 11 females) arrangements were made for the patients to return within a defined period for further examination. It should be noted that many minor defects (of teeth, tonsils, ears, etc.) not mentioned above were found and treated (or recommended for treatment). In addition, much hygienic advice (dietetic, etc.) was given where considered necessary.

Summary.

From this general review of the working of the scheme certain general considerations emerge :—

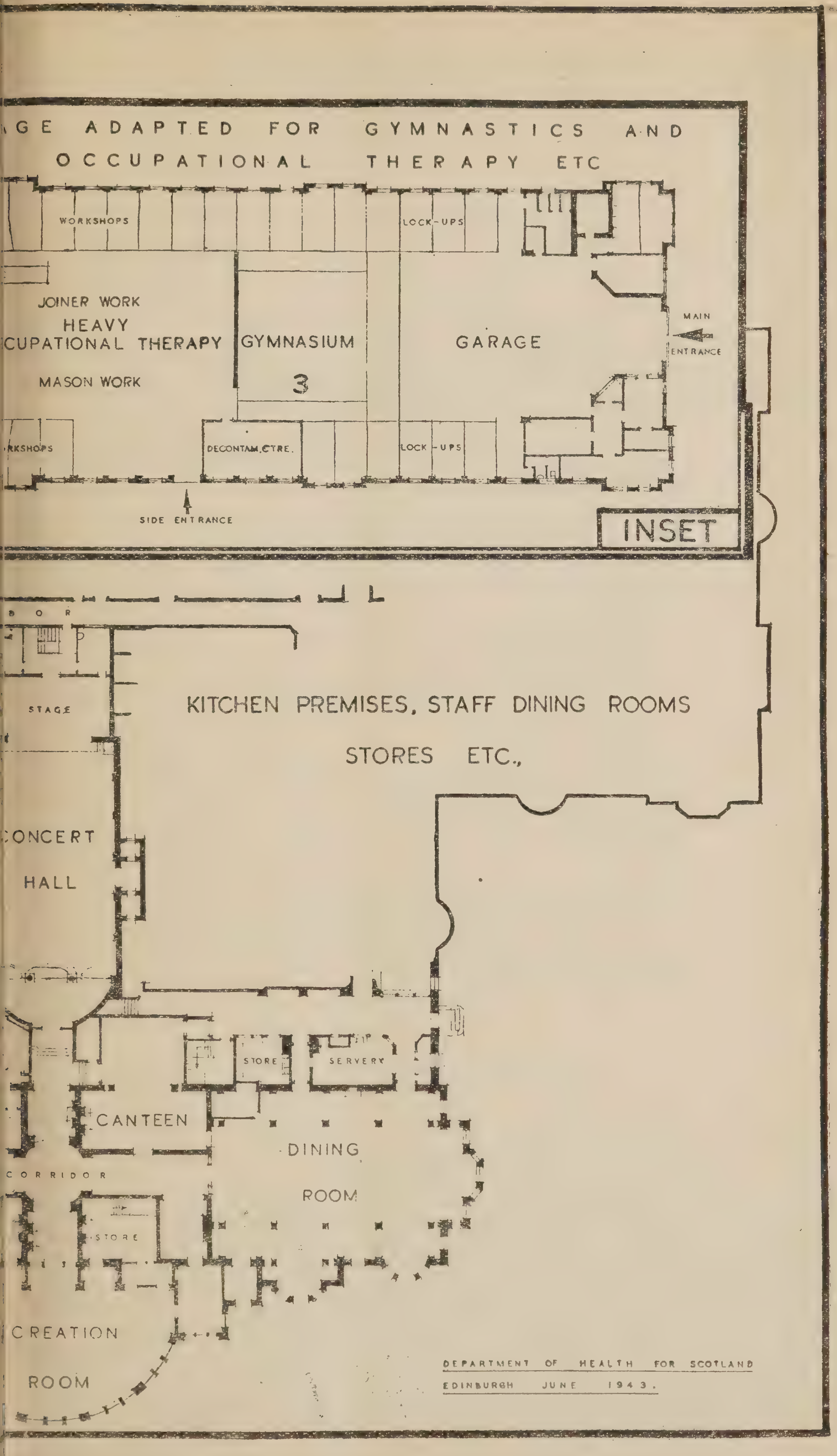
1. There is need for facilities such as are provided under the scheme, though not necessarily on exactly the present lines—admittedly experimental.
2. At present too many of the cases of fatigue carry on until unfit for work when the period required for return of capacity is prolonged. More adequate facilities for ordinary (e.g. week-end) rest and recreation would help to prevent some of the conditions found.
3. Much of the vague ill-health encountered was due to long hours of work, travelling difficulties and inappropriate dietaries as is evidenced by the large proportion of cases without serious organic disease.
4. The vast majority of the patients sent for convalescence have benefited by the rest and change provided. The removal of fears of serious disease by complete medical overhaul provides the reassurance so helpful in expediting recovery.
5. The hospital reports must be of value in affording to the patient's own doctor a useful background not only for present but for future reference.
6. The proportion of cases with early organic disease elicited in the course of hospital investigation but not detected by ordinary clinic and Specialist facilities is small. Where, institutional admission can be most helpful in such cases is mainly in the elucidation of causal factors.
7. Certain difficulties encountered have been described—difficulties in securing full realisation of the potential value of the scheme, alike in relation to the



GLENEAGLES

FITNESS CENTRE

GROUND FLOOR PLAN



DEPARTMENT OF HEALTH FOR SCOTLAND
EDINBURGH JUNE 1943.

well-being of the patient and his working efficiency. It is not easy to arouse enthusiasm for a scheme that is essentially preventive in its approach.

8. References by doctors should be such as to give clear indications of the reasons for reference and all pertinent clinical details.

IV

A STUDY OF THE HEALTH AND WORKING EXPERIENCE OF 1,000 CONSECUTIVE PERSONS OF SCOTTISH DOMICILE INVALIDED OUT OF THE FORCES AS UNFIT FOR FURTHER SERVICE.

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A preliminary survey.

1. As early as 1940 it became obvious that many men invalided out of the Forces as unfit for further service were likely to have grave difficulty in settling down to useful work on their return to civil life. It was resolved to follow-up 300 men invalided out from one particular E.M.S. hospital and the results of this survey, carried out in 1941, amply confirmed those fears. It was found that 66 per cent. of the men sought domiciliary care from their family doctors, while 21 per cent. required admission to hospital within six months for further treatment of the condition responsible for their discharge. The men experienced difficulty in finding work suited to their disabilities. Fully 27 per cent. were not working at the end of six months. Five had died, three were in prison and of

the 70 per cent. found to be in employment less than one-third were working at their old jobs, some of them very intermittently. The remainder had been forced to take up new work, often of a lighter character. In this original investigation the men were not specifically asked whether they had been able to continue working at the first job they took up on return to civil life, but over 24 per cent. volunteered the information that they had not been able to do so and had been compelled to resort to other work ; this figure does not fully represent the incidence of false starts. Of the men found to be working, many had been unemployed for a long time after discharge, some 17 per cent. for more than three months. Of the men still unemployed six months after leaving the Services, some were completely incapacitated by their disabilities and likely to remain so for a long time ; some complained of inability to get suitable work, often on account of a particular disability incompatible with former employment—*e.g.*, a miner who had suffered from acute rheumatism ; a labourer with arthritis of the spine, the result of injury, unable to find a job that offered the necessary support to his back. Some were incapacitated by complications arising from the original trouble (e.g. perforation of a duodenal ulcer after return to work) : some were unable to carry on at work on account of the special food difficulties so common in war-time, while a few professed to be unable to secure work for some apparently insufficient reason—" because classed as unfit." A number of cases were followed up again six months later, i.e. one year after invaliding out ; the results obtained then were not found to differ materially from those at the end of six months. As it happened, cases of mental and nervous disorder were usually transferred from the hospital under survey to another for disposal, so that these types were almost completely absent from this preliminary series. There is reason to believe that, apart from such cases, the clinical nature of the sample was reasonably typical of cases being invalided out of the Services at that time.

2. These facts were reported in the autumn of 1941, by which time the Interim Scheme of the Ministry of Labour and National Service for the rehabilitation of disabled persons was coming into operation. Under this Scheme men with residual disabilities are seen before discharge from hospital by an officer of the Ministry, who considers with each man in the light of medical evidence (available on Form W.D. 1) and, if necessary, after personal consultation with the medical officer who has been in charge of the case, what work is best suited to his physical and mental capacity. Where difficulty is likely to be experienced in finding suitable work, the man is urged to communicate with the Employment Exchange nearest his home ; the relative papers and recommendations are in any case forwarded to that office.

Outline of the present survey.

3. It was clearly impossible to dissociate the several primary aspects of the difficulties of these invalided men—medical, social and in relation to work. The problem was formidable in its medical implications and in relation to man-power. In April 1942 it was agreed that the Department of Health for Scotland and the Scottish Regional Office, Ministry of Labour and National Service, should co-operate in an investigation designed to see what could be done to meet some of the difficulties of these men boarded out of the Services. It was decided to study closely the records of 1,000 consecutive men (and women) of Scottish domicile discharged from the Services as unfit, to formulate considered views on the medical after-care of these people and on the nature of work best suited to their residual disabilities and to follow them up to ascertain how they fared, medically and in relation to work, after returning home. It was agreed that a preliminary follow-up should be carried out in the third month after return to civil life and a

final one three months later ; previous experience had shown that by the end of six months the condition of most of these men would have become relatively stable.

4. As the Form W.D. 1 in each case reached the Regional Office of the Ministry of Labour the work originally recommended was reviewed in the light of available medical information, and cases were interviewed when that course appeared to be necessary. In about 14 per cent. of cases it was found to be desirable to modify materially the work recommendation first entered on Form W.D. 1. Sometimes the need for modification resulted from failure to appreciate the demands of the work proposed in relation to the residual disability of the individual, e.g.—

> *Case* 550.—W.D., age 26, suffers from rheumatic heart disease. Original recommendation was to return to old work as furniture remover.
>
> *Case* 586.—A. McQ., age 32, suffers from bronchial asthma. He was placed as carding operative in a textile factory where the dusty atmosphere inevitably aggravated his condition. A. McQ. had to give up this work and has not worked since.

Sometimes the need for modification arose from a zeal for training without due regard to suitability, e.g.—

> *Case* 562.—J. C., age 59, suffers from duodenal ulcer, formerly a miner. W.D. 1 suggested training in watch repairing or radio fault-finding. Recommendation changed to pithead work, at which J. C. is now working quite successfully.
>
> *Case* 112.—R. M., aged 31, suffers from epilepsy, formerly a labourer. Original recommendation, training in oxy-acetylene welding. Advised rather to return to labouring and now working in that capacity, but still hankers after training.

It is often difficult to take a strong line in opposing the wishes of a man whose mind is set on a particular kind of work for which he may be unsuitable. The guiding principle throughout this investigation has been to give the fullest possible encouragement to the wishes of the individual, recognising that in general a man does his best work where his heart lies, and to interfere only when the course proposed conflicts seriously with the interest of the individual or the safety of the public. From the point of view of medical care these cases were specially noted which appeared to require more than general practitioner supervision. In many the family doctors of the men were approached and the helpful attitude of the doctors in these and other cases referred in the course of follow-up has been invaluable. Eminent specialists kindly undertook to see and advise on difficult cases and their help, freely and willingly given, has been of very great assistance. Considered recommendations were submitted to the Regional Office of the Ministry of Labour and transmitted to local offices for appropriate action.

Method of follow-up.

5. When the first follow-up was due a questionnaire was sent to each of the 1,000 persons covered by the survey. Two-thirds of them replied to this first approach. Where there was no reply in ten days, a reminder was sent ; this brought the response up to about 80 per cent. Local offices of the Ministry of Labour were requested to follow up by personal visit the unresponding cases and the number of defaulters was reduced to less than 10 per cent. As has been explained the purpose of this follow-up was primarily to find out how many of the cases needed help, medical, social or in relation to work, and action under one or other of these heads was considered necessary in about 260 cases, approximately 60 per cent. of these requiring work revision. In many cases family

doctors had to be consulted and sometimes hospital care arranged. It was found necessary to see personally a number of cases from the work point of view, often to determine suitability for training. At follow-up of cases in the third month after returning to civil life, approximately 22 per cent. were found to be unemployed.

6. A similar course was adopted in carrying out the second follow-up three months later. It was found that four of the patients had died, that five were in the Services, and that one was in prison. The relatives of one man refused to give any information about him. There remained 14 cases regarding which the local office of the Ministry of Labour could not get accurate information. Some of the addresses given in these cases were found to be non-existent, one was that of a common lodging house : one man was found to have been repatriated to Newfoundland, one had gone to London and was thought to be working there, two had left their old addresses and the others simply could not be traced.

7. The results obtained from this second follow-up have been classified by age, service, duration of service, disability, severity of disability and medical and work recommendations. Information is available to show for 975 cases how many had required medical care during the six months from family doctor or from hospital, whether the men were in employment at the end of six months and the nature of the work being done (old work, new work with or without training, no work), whether there had been false starts involving change of employment since returning to work, whether employed with old employer, duration of unemployment, and whether difficulty was still being experienced. The findings have been correlated and an attempt made to ascertain how many of the cases found their way into work regarded medically as unsuited to their residual disabilities, and how they fared.

8. These criteria have been adopted in the follow-up survey because the answers are comparatively easy to collect with fair accuracy and because, taken together, they present a reasonable picture of how a man has fared on return to civil life. By themselves few are free from risk of fallacy in interpretation and they are not directly comparable from case to case ; hospital facilities, for instance, are not always equally available in different parts of the country, nor are work resources. Sometimes circumstances quite outside a man's control necessitate change of employment and particularly so in war-time ; so that the incidence of false starts is not necessarily an accurate reflection of mental or physical unsuitability of the individual, nor yet of faulty placing. Again, while the extent to which men returned to the service of their old employer is interesting from several points of view, figures on this subject have to be read in the light of the industrial disorganisation of the time. Above all, there are enormous variations in the reaction of the individual to his health, his work, his difficulties ; but when due allowance is made for all these circumstances, it is believed that the indices adopted, taken together and sensibly interpreted, constitute a useful measure of the welfare of these men and women on their return to civil life. The records were surveyed and this report prepared by the observer who carried out the preliminary survey mentioned above and to that extent the results of the two are comparable, but it must be remembered that the labour position had altered materially between the two investigations. On the one hand there had been a general increase in demand for labour ; on the other, greater utilisation of female labour, which had made it more difficult for men to obtain certain kinds of work.

The nature of the population studied.

9. While individual case records examined covered a range wide in nature of disability responsible for discharge from the Services, age and duration of service, the general pattern could be pictured easily enough. The survey was

concerned for the most part with young people ; two-thirds were under 35 years of age, and only 3·5 per cent. over 50. Duration of service in the Forces was less than three years in some five-sixths of cases. The disabilities from which these people suffered have been classified into twenty groups, some of which will be studied in detail later. By far the largest group was that of mental and nervous disorders, including mental defect (38 per cent.). The next most frequent were, in order, peptic ulcer (17·5 per cent.), injuries (9 per cent.), respiratory diseases other than tuberculosis (8·5 per cent.), and cardio-vascular disease (4·5 per cent.). Information about degree of residual disability as assessed by the hospital from which these men were invalided out of the Services was obtained in 885 cases and of these 76 were described as " severe," 421 as " material " and 388 as " slight." Most of the men served in the Army (713) with smaller numbers in the Navy (140), and R.A.F. (99). The few women included were from the A.T.S. (11) and the W.A.A.F. (12). While numbers were too small to permit of any inter-Service comparison, the percentage of men invalided out from the Navy on account of mental and nervous disorders appeared to be lower than in the case of the other Services.

10. From a preliminary study of the records it appeared that many cases were likely to require continuing medical care from their own doctors after returning home and that about 22 per cent. were likely to need also further hospital treatment for the condition responsible for their discharge from the Services. In 551 instances it was recommended that men should return to former work with their old or other employers ; in 70 the recommendation was for placement in new work after training under the auspices of the Ministry of Labour and National Service, and in 285 for placement in new work without prior training. In 69 cases a recommendation on suitable work was deferred until the patient's medical condition had become stabilised, as it was obvious that he would be unable to return to work for a considerable time. The proportion recommended to return to former work was higher for younger age groups than for older—60 per cent. of the under 40s as against 40 per cent. over that age. As a general principle, unless there was some strong contra-indication, it was recommended that men and women in the large group of mental and nervous disabilities should return as soon as possible to work at which they had already demonstrated they were reasonably successful in civil life before joining the Forces. Over 80 per cent. of cases suffering from anxiety states and mental defect were recommended to return to their old work. On the other hand, certain clinical groups, notably sufferers from the after effects of injuries and from respiratory and cardio-vascular diseases and rheumatic conditions, called more frequently for change of employment with or without training. In these groups collectively, apart from the cases in which judgment was deferred, only some 37 per cent. of cases were recommended to return to their old work, and 15 per cent. were recommended for training in a Government training centre.

Results of follow-up.

11. It was found that of the 975 cases for which detailed follow-up records were available, 637 required within the period of six months observation the services of their own doctor for the treatment of the condition for which they were invalided out of the Forces. Altogether 153 received treatment in hospital during the same period. The nature of the disability inevitably influenced the need for hospital care. Thus in the small group of cases suffering from tuberculosis, the majority received sanatorium treatment ; and 24 out of 77 patients suffering from disorders of the special senses received hospital care, as did 22 out of 73 sufferers from injuries. At the other end of the scale only 23 out of 260 cases of psycho-neurosis received hospital care, almost all as out-patients. These

numbers do not necessarily fully reflect the number of cases in need of specialist care, since for some of these types of cases, and particularly in certain parts of the country, suitable hospital accommodation is deficient. Of 153 patients who received hospital care, 51 were found to be unemployed six months after return to civil life, and 43 had made false starts in work at which they were unable to continue. Of the 103 hospital-treated cases found to be in employment at the end of six months, 23 per cent. had been unemployed for more than three months before being able to return to work. Sixty-six of the hospital-treated cases reported at the end of six months that they were having difficulties of various kinds and in 28 it appeared that the patients had taken up work likely to be unsuited to their residual disabilities. The extent to which these 153 men required continuing medical and hospital supervision and their own stories of difficulties experienced on return to work suggest that many of them would have profited greatly from a period of rehabilitation at a fitness centre before being placed in employment.

12. Of the 975 men regarding whom accurate information is available, 161 were found to be unemployed six months after leaving the Services, 389 were doing their old work, 43 were undergoing training in Government training centres or were engaged in work for which they had been trained in such centres, and 382 were employed at new work without such training. It was found that the percentage of men returning to their old work was higher among men under 35 than among those over that age, 43 per cent. as against 34 per cent. There was no difference in point of subsequent employment between men who had been in the several Services, but among the few women included in the survey the amount of unemployment at the end of six months was relatively high. Duration of service was not found to affect appreciably the proportion of men unemployed, but it did influence the nature of the work which they took up on return. Of those whose service was very short, under three months, 65 per cent. of the employed were working at their old jobs : among those whose length of service lay between three months and a year the percentage was just over 50 ; of those whose service extended to between one year and two, 56 per cent. ; between two years and three, 39 per cent. ; three years to five years, 32 per cent. ; and over five years, 22 per cent. The proportion recommended for training was highest among these whose duration of service fell between one year and three years.

13. Nature of disability influenced both the incidence of unemployment and the nature of the work which the men took up on return to civil life. Unemployment was lowest among those suffering from some rheumatic conditions (arthritis, fibrositis, etc., but not rheumatic heart disease) and highest among the small groups of men suffering from pulmonary tuberculosis and from the after-effects of head injuries. Among men suffering from respiratory disease other than tuberculosis the percentage unemployed was 20, among epileptics 23, among mental defectives 25, among those having sustained injuries other than head injuries 19, and among those suffering from peptic ulcer 15. The percentage of those found to be working who returned to their old work was highest among men invalided out on account of psycho-neurosis (49 per cent.), and lowest among those suffering from the effects of injuries other than head injuries (15 per cent.). For peptic ulcer it was 41 per cent., for respiratory disease other than tuberculosis, 21 per cent., and for mental defect, 41 per cent. The proportion of men taking up new work without training was particularly high in the groups suffering from respiratory disease other than pulmonary tuberculosis (56 per cent.), and from the results of injuries (60 per cent.).

14. When the nature of the work recommended was compared with that actually taken up on return to civil life, it was found that of those recommended to return to old employment, 65 per cent. did so. Of those recommended to take up new work without training, 79 per cent. did so, and of those recommended for training, 56 per cent. were undergoing or had completed training six months

after leaving the Services : a number of the men considered to be suitable for training found work on their return home and preferred to stay in it. Of the cases in which work recommendation was deferred, 85 per cent. were still unfit for work at the end of six months.

15. Two hundred and fifty-one of the men took up work on return to civil life at which they did not continue, generally because it was unsuited to their disability. Of the men found to be working at their old jobs at the end of six months 8 per cent. had worked at something else for a time after leaving the Services before returning to take up their previous employment. Sometimes this short spell in other work was of the nature of a stopgap pending the more complete degree of recovery necessary to enable them to take up their old work. Sometimes men were attracted to new work, but found on trial of it that they did not fare so well as at their own trade. Some, again, were merely filling in time until a vacancy occurred in their own work. Of the men who were found to have taken up new work without training, 38 per cent. had had one or more false starts either at their old work or at another type of employment. Of the men who received training about one in five had been employed in some other kind of work before starting a training course, often simply as an expedient to fill up waiting time. Of the 161 men found to be unemployed at the end of six months 71 had tried to do some work since their return home, but had been compelled to give it up : the remaining 90 had done no work since leaving the Services.

16. Of the 389 men who returned to their old employment, 210 were found to be working with their old employer and of the 382 who took up new work without training, 54 were found to be in the service of their old employer.

17. Of the men found to be working at the end of six months 59 per cent. started work within a month of return to civil life, 87 per cent. within two months, 90·4 per cent. within three months and the remaining 9·6 per cent. between the fourth and sixth month after leaving the Services. As stated, many of the men found to be unemployed at the end of six months had in fact tried to work, but found that they could not continue, and of these 57 per cent. made their effort in the first month after leaving the Services and 32 per cent. in the second.

18. No reasonable exception could be taken on medical grounds to the employment histories of 95 per cent. of the men found to be working at their old employment or undergoing training. This satisfactory figure was not attained among the group taking up new work without training. It was considered that about 25 per cent. of men in this group were engaged in, or had been engaged in, work unsuited to their physical or mental states ; or, in a few instances, had been seriously deficient in obtaining medical treatment urgently required. The position was still worse among the men found to be unemployed, for some 60 per cent. of these cases were considered to be unsatisfactory. A few of the men in this unsatisfactory group were so classed because they had not taken up work when, so far as could be gathered, there was no good reason why they should not have done so. In some of these cases their own doctors agreed that continued idleness could not fail to aggravate disability.

Special groups of clinical cases.

19. The appended table summarises information derived from a follow-up of certain types of disability. It deals with men suffering from peptic ulcer, from psycho-neurosis, from mental defect, from pulmonary disease and from injuries, conditions responsible in the aggregate for about two-thirds of the cases studied in this survey.

Summary of results obtained from follow-up of certain Groups of Disability.

(Results throughout stated as percentages of all cases in their particular groups.)

Disability Group.	Received care from own doctors.	Received Hospital care.	Nature of work being done.				False starts at work.	Working with old employer.	Duration of unemployment of men who returned to work. Months.			Reported having difficulties.	Regarded as unsatisfactory on work or medical grounds.
			Unemployed.	Old Work.	New Work.				−1	−2	−3		
					Without Training.	With Training.							
Peptic ulcer .	84	12	14	41	40	5	27	35	57	86	89	41	23
Psycho-neurosis	63	9	13	49	35	2	22	30	60	90	93	39	24
Mental defect .	46	3	24	41	35	–	31	20	69	93	95	22	26
Pulmonary disease (other than tuberculosis) .	60	14	20	24	50	6	40	17	36	91	95	34	28
Injuries . .	52	30	21	19	49	11	24	22	54	74	80	36	11
All Causes .	65	16	16·5	40	39	4·5	26	27	59	87	90	39	19·5

Peptic ulcer.

20. Where peptic ulcer leads to invaliding from the Services the condition is generally known to have been present before entry, though usually not of a severity sufficient to interfere seriously with working capacity. The circumstances of Service life seem to predispose to breakdown of these men, and on their return to civil life they often find that a considerable interval elapses before they regain anything approaching the health and work equilibrium that was theirs before joining the Forces. Their troubles are, of course, aggravated by the dietetic difficulties of war-time. Many require general practitioner care on return home: their recourse to hospital is usually governed by the onset of some acute complication. In this series 14 per cent. were found to be unemployed at the end of six months, a figure rather below that for the survey as a whole. The proportions of the group returning to old work and taking up new work—41 per cent. and 45 per cent. respectively—closely paralleled the general experience, as did the figure of 27 per cent. for false starts, due for the most part to premature efforts to resume work, to the assumption of unsuitable work, or simply to inability to continue to work for long periods in these early weeks under the exacting conditions of war-time employment. The trials of these men are inevitably considerable, and it is not surprising that the proportion reporting difficulties, 41 per cent., is above the average. The following are examples :—

> *Case* 928.—J. H., age 37, peptic ulcer. Before the war a foundry worker. Recommended to take up light labouring and to live at home with facilities for regular and suitable food. Took up work as a general labourer, found he could not do it and secured a job as a works policeman at a considerable distance from his home ; now working 12 hours a day and spending additionally 3½ hours in travelling. Reports that he finds conditions too difficult.
>
> *Case* 504.—D. L., age 42, duodenal ulcer. Formerly employed as a clerk. Went back to clerking on returning home, but in a naval dockyard some twenty miles from his home, and worked long hours with superadded travelling. His ulcer perforated and he was found on follow-up to be under treatment in hospital.

Case 681.—R. C., aged 32, duodenal ulcer. Formerly employed as a furnace and boiler builder's labourer. Recommended to take up lighter labouring work near his home in Glasgow, with facilities for regular and suitable meals. He took up light labouring within four weeks of returning to civil life. Reported at follow-up in three months that he was having difficulty with regard to his diet and at the end of six months was found to have been compelled to give up work on that account and to be unemployed.

Some of these men have been sufficiently fortunate to be put to more suitable work by their old employers and are doing reasonably well.

Case 115.—J. R., age 29, duodenal ulcer. Formerly a commercial traveller with tobacco manufacturers in Glasgow. Was placed by the firm in office work which did not involve travelling and reports that he is doing well.

Case 771.—T. F., age 37, duodenal ulcer. Formerly a commercial traveller. Returned to this work, broke down. After treatment in Glasgow Royal Infirmary was given by his old firm work as a warehouseman and is now doing well.

Others found it difficult to continue at work even with sympathetic treatment.

Case 164.—W. K., age 40, duodenal ulcer. Formerly employed as a rigger. Recommended to take up lighter unskilled work and given such work by his old employer, but kept on losing a good deal of working time even though he was given the lightest of light jobs.

It is well known that men engaged as drivers in the motor transport industry have, like miners, a high incidence of duodenal ulcer, but it is striking that many men with this disability seem to have set their hearts on motor driving though well aware that driving is unsuited to their condition.

Case 92.—R. McK., age 34, peptic ulcer. Former occupation lorry driver. When interviewed in hospital declared his intention of returning to old job as soon as fit. He obtained work as a motor driver which appeared to be as good as any of that type was likely to be, but even so he had recurrent spells of incapacity for work ; he reported that he was afraid to stay off in case of losing his job and that he often continued at work when he felt unable to do so.

Case 823.—T. M., age 31, duodenal ulcer. Formerly a foreman motor mechanic. On leaving the Navy took up work as a bus driver, but finding it unsuitable reverted to that of a motor mechanic and reported at the end of six months that he was then having no difficulty.

Case 435.—J. L., age 23, duodenal ulcer. Formerly a motor driver and coal salesman. At interview expressed intention to return to heavy lorry driving. On follow-up in third month was found to be motor driving, but was finding work unsuitable and enquired whether he could be trained in other work under Ministry of Labour interim scheme. He was recommended for such training.

These cases often require follow-up if their health and working efficiency are to be conserved. Left to themselves they are apt to gravitate from one unsuitable job to another and finally into unemployment with its attendant troubles.

Case 342.—C. McC., age 36, duodenal ulcer. Formerly employed as a labourer in a Glasgow steel works. Wished to return to lighter work with his old employer, but was put to his old job and was unable to carry on. Took up work as a barman, but found this unsuitable and on follow-up at the end of six months was found to be unemployed and beset with financial and dietary troubles.

Psycho-neurosis.

21. This is easily the largest group of cases included in the survey. It covers a variety of clinical types—anxiety states, nervous instabilities, enuresis and the like. It is essentially a group characterised by instability—instability and unsettledness that is apt to permeate the whole life of the individual and, among other things, his attitude to work. These people often flit uneasily from job to job and the general principle adopted in framing work recommendations for them has been that, in the absence of some strong contra-indication, they should return as soon as possible to any work which they were doing reasonably efficiently before they joined the Services. Thirteen per cent. of them were found to be unemployed at the end of six months, a figure rather below the average, and, perhaps as a result of determined efforts to that end, the proportion of cases returning to old work was higher than in any of the other major groups studied. On the other hand, the proportion recommended for training was low. The incidence of false starts was also low, a matter for satisfaction in view of the known changing tendencies of the group. The experience was that most of these people who went back to their old jobs settled down reasonably well ; those who took up new work were more likely to become unsettled.

> *Case* 150. J. H., age 29, chronic anxiety neurosis. Formerly a painter. Proposed to take up work as a dock labourer, but instead became a fire watcher, then a boiler fireman. Was found to have been off work on two or three occasions : when followed up in third month had had two further jobs before taking up baking, at which he was working at the end of six months. He complained that he could not find suitable work.
>
> *Case* 869.—R. McL., age 26, nervous debility. Formerly general labourer. Took up work as a slater's labourer two weeks after returning home. At follow-up in third month was still in this work, but anxious to be trained in engineering. Encouraged to remain where he was, but found at end of six months to have been in three more jobs since first follow-up. He complained that he could not settle down and was now anxious to enter the Merchant Navy.

Occasionally this type of patient settles down unexpectedly well in new work.

> *Case* 948.—J. McK., age 22, discharged from the Army because " he was useless, always complaining of pain, etc., and going sick." Before the war he was a barman and he said at interview that he intended to go back to his old work in fourteen days. Instead he became a clerk in a Government department and remained in that employment throughout the six months of observation, apparently quite happy, and reported no difficulty.

There can be no doubt that some of those men are inclined to make the most of themselves, to " put on the strong armour of sickness."

> *Case* 834.—R. T., age 23, hysteria, " basically emotionally immature and childish." Formerly a steward on a railway pleasure steamer. He was recommended to return to old employment and placed in such work, which he left after one week because he " collapsed at it." He then took up light casual work and passed from that to become a temporary postman. He reported at the end of six months after he left that he required extra care and extra nourishment, cod liver oil, malt and wine.
>
> *Case* 914.—J. S., age 40, hysteria. Before the war was a civilian worker in a Royal Naval Ordnance Depot and was recommended to go back to his old work. He agreed to do so, but on follow-up in three months was found to be unemployed. He complained that he had had to borrow money. He

> was still unemployed at the end of six months. His doctor had signed him off N.H.I. benefit and told him that it was time he obtained some work. Only then did he think seriously of starting work again.

The reason given for unemployment by members of this group was usually that they could not obtain suitable work, though some were more ingenious.

> *Case* 503.—P. McG., age 21, psychopathic personality. Formerly a farm labourer. Proposed to go back to that work, but did not do so because he generated a body odour which he thought offensive to his workmates.

The history of these men on their return to civil life is of interest and importance from several points of view: it will be noted that in this series the level of their success and well-being was not less than that of the generality of men invalided out of the Services.

Mental defect.

22. It is scarcely surprising to find that the proportion of unemployed men invalided on account of mental defect is above the average, even in these days of labour scarcity. None were accepted for training. The proportion working with old employers was found to be low, though not the proportion working at old employment, while the percentage reporting difficulties was much lower than usual. The placement of these men in suitable work is normally a matter of difficulty. Before the war many of them had been in casual employment and not all found it possible to get back the work to which they were accustomed, a situation aggravated by the difficulty of securing supplies of materials.

> *Case* 428.—A. L., age 34, served in Army for only one month. Discharged on account of mental deficiency. Said to be very immature and infantile in his outlook. Worked before the war as a garage attendant and motor driver and wished to return to motor driving, but was found on follow-up to be unemployed. Local office of the Ministry of Labour reported that A. L.'s mental condition rendered his placement impossible. He had been submitted for five vacancies, but no employer would have him.

Sometimes these men managed to secure unexpected jobs, like the casual labourer who was found to be running a plant pasteurising milk, or

> *Case* 227.—J. C., age 22. Served in Army for seven months and was discharged on account of mental defect: was a failure in the Army, being able to carry out only simple work under direct supervision. Before the war he had been employed as a boot and shoe repairer by his father and expected to return to that work, but at follow-up in three months was found to be a scavenger with a corporation cleansing department. At the end of six months he had changed his work and become a hospital theatre orderly, having found that he was not able for his work in the cleansing department. He complained, then, that his diet consisted of eggs and milk puddings, but that he would welcome more of both.

The most satisfactory type of work placement is that involving return to some such occupation as agricultural labouring and experience shows that under these conditions the men usually do reasonably well.

Pulmonary disease, other than tuberculosis.

23. The diseases included in this group are chronic bronchitis, asthma, pleurisy, pulmonary fibrosis and the like. The proportion of people suffering from these conditions who were found to have required general practitioner and hospital care was just below the usual figure. For the most part this was a group

older than the average and duration of service was longer. The proportion unemployed at the end of six months was high, and that returning to old work correspondingly low, 24 per cent. as against the average 40 per cent. : there was a marked tendency to take up new work. These men did not return to work so quickly after discharge from the Services as most, apparently requiring more time to establish physical equilibrium and to find suitable jobs. Their incidence of false starts was high and the proportion of men found to be working with old employer very low. Their placement was often a matter of difficulty, and they required continuing help and supervision.

> *Case* 586.—A. McK., age 23, invalided on account of chronic bronchitis and asthma. Particulars of former work not available. When first record came to hand A. McK. had been placed as a carding operative with a woollen manufacturer. Representations were made at once that this work was unsuitable and should be changed. Enquiry disclosed that already within a fortnight the man had been compelled to give up this work on account of its unsuitable nature, which aggravated his complaint, and he has not worked since.
>
> *Case* 68.—J. C., age 40, discharged from the Navy on account of asthma. Before the war worked as a cellar-man in an Edinburgh brewery and proposed to return to that work. At follow-up in three months was found to be so employed, but complained of difficulty in breathing and three months later it was found that he had recently moved to take up work as a fertiliser mixer, an occupation no more compatible with his disability.
>
> *Case* 128.—H. C., age 29, invalided out of the Navy on account of chronic asthma and emphysema. Before the war employed as a bricklayer's labourer and on discharge was regarded as fit only for light outdoor work. He was advised to take up light labouring in his home town and found employment as a light labourer, but the work involved cleaning duties in an aerodrome and the fumes to which he was exposed gripped his chest, causing him to give up his job. At the end of six months he was found to have changed his occupation and to have become a coal salesman, work which doubtless involved heavy lifting as well as too much dust exposure.
>
> *Case* 390.—J. T., age 20, invalided out of the Army on account of chronic adhesive pleurisy. Before the war worked as a jute worker. Was regarded on discharge as suitable for machine operating (of which he had acquired some experience), but as unfit for work in the jute industry. Despite warnings he returned to jute work, but within two weeks his symptoms were aggravated and he was ordered by his doctor to give up this work. He took a job as an assistant cook with N.A.A.F.I. and has since been well.

Work in bad atmospheres usually aggravates the troubles of these men and defective ventilation, especially when associated with exposure to dusts and fumes, is a common source of upset.

> *Case* 381.—R. P., age 21, chronic bronchitis. Before the war worked as a steel works labourer. Wished to take up munition work and was accepted as fit for work on day shift only. He worked as a process worker making incendiary bombs and at first follow-up reported that all was well. Three months later he was still at the same work, but working only intermittently and having difficulty in doing his job on account of bad ventilation during the night-shift work to which he had been posted.

In placing these men it is essential to remember that exposure to dust and fumes necessarily increases their chances of breakdown and that wherever possible they should be put to work in reasonably good atmospheres : they are obviously unsuited for training in such processes as grinding.

Injuries.

24. A high proportion of cases in this group (30 per cent.) required hospital treatment on their return to civil life. The proportion of the group unemployed at the end of six months was rather above the average, and the fraction taking up old work was less than half the average figure. On the other hand, the percentage trained (11 per cent.) was relatively high. False starts were not unduly common. On average, return to work was delayed longer than in the generality of cases. The injuries covered by the survey were of many types and of widely varying severity, and the determination of the men to surmount their difficulties also varied considerably. Occasionally there was disappointingly little effort, but as a rule the men were anxious to get back to work and performed very creditably.

> *Case* 69.—F. McG., age 47, sustained a gunshot wound of the right arm in the war of 1914–18, and in the present war an amputation of the left arm and a gunshot wound of the right foot. Before the war he was employed as a traveller and clerk. It was considered whether he should be trained in inspecting and viewing, but decided instead to place him as a checker. Unfortunately the work involved standing on a wet platform and he could not manage it with the surgical boot he had to wear. He then took up work as a clerk in an Ordnance Factory, and on follow-up six months after leaving the Army was found to be working well, though his foot injury still required some attention.
>
> *Case* 284.—T. V., age 29, suffered from an unstable right knee, result of a fracture of the tibia. On discharge from the Army had a limp and pain in the knee. Before the war had been employed as a hosiery knitter, but his former occupation entailed continuous standing and though he tried to do it for two or three months he found it too difficult and was accepted for training in machine operating at a Government training centre. He found that this work better suited his disability.

Some showed keenness and determination to get back to work that could scarcely fail to succeed.

> *Case* 31.—G. B., age 38, invalided out of the Army on account of severe post-concussional symptoms regarded as likely to be permanent and severe, the result of a motor crash. Before the war he was employed as a colliery surface worker. He was confident that he would be able to resume that employment, and though he had been advised to stay off work for some time he resumed surface work within four weeks and, not content with that, became an underground worker shortly afterwards and has continued as such throughout the period of observation. He reported no difficulties.
>
> *Case* 838.—P.B., age 22, amputation of the right leg below knee. Before the war he was employed as a motor engineer. He contemplated training with a view to entering munition work, but instead decided to go to sea as a marine engineer and did so successfully.

A difficulty experienced by many of these men, particularly those with artificial limbs, arises from travel to and from work under crowded rush hour conditions.

> *Case* 139.—W. M., age 25, amputation left leg above the knee. Before the war was employed as a flour miller. He found suitable employment as a clerk, but when followed-up at the end of six months explained that while the situation was satisfactory his difficulty in travelling to and from work was great.
>
> *Case* 836.—J. A., age 25, amputation left leg above the knee. Before the war was employed as a butcher and proposed to return to that work. After

> being supplied with an artificial leg he had resumed his old employment and found himself able to do the work reasonably well, but complained that the worst of his troubles lay in travelling in crowded buses and trams to and from work.

The small group of men suffering from head injuries included in the series presented special difficulties, though, on the whole, follow-up proved them to be doing remarkably well. The numbers at issue are too small to permit of generalisations, but sufficient to demonstrate that there is a reasonable prospect of many of these men making a successful return to useful work. Some detailed statistical information about these and the other groups of clinical cases is set out in Appendix B.

Difficulties experienced by men invalided out of the Services.

25. As many as 39 per cent. of the cases followed up reported at the end of six months that they were encountering difficulties. The older men reported difficulties rather more frequently than the younger and the incidence of troubles was related to employment state. Those men who were unemployed reported difficulties most frequently of all—in 85 cases out of 161, men who had returned to their old work and trainees at Government training centres least frequently—120 out of 389 and 12 out of 43 respectively, while men who had taken up new work without training occupied an intermediate position, 163 out of 382 reporting difficulties. Men suffering from peptic ulcer reported a higher than average incidence of difficulties, while, easily at the other end of the scale, was the group of mental defectives, whose reported difficulties were little more than half the average frequency—20 per cent. as against 39 per cent. The nature of the difficulties varied widely. Many were associated with work : frequently disabled men felt that they were having to do work that was too heavy.

It sometimes happened that men were enabled to continue in a job by the sympathetic understanding and help of their workmates, as in the case of a man with muscular wasting of the shoulders whose lifting capacity was severely limited, and who would have been unable to carry on his work had not his mates helped him in his difficulties. Sometimes it was possible to arrange more suitable work with a man's former employer : several instances have already been quoted. Sometimes a new employer was willing to take a friendly interest in these men.

> *Case* 537.—J. B., age 38, osteo-arthritis of knees and shoulders. This man, who was discharged with marked disability, was a miner before joining the Army. He was regarded as quite unfit for coal mining, and it was suggested that he might be able to drive a light car or van, work which appealed to him. He found employment as a light truck driver and reported at first follow-up that he was working in the service of a friend who allowed him to stop when he did not feel fit and that, by virtue of this arrangement, he was able to carry on, even though he had some difficulty with his legs. Three months later he was working quite happily under the same sympathetic arrangement.

Occasionally it happens that a disabled man has sufficient enterprise and resource to take up suitable work on his own account, as in the case of a man suffering from Menière's disease with associated giddiness, which precluded him from working at heights as his occupation as a painter normally entailed. He started work on his own account as a painter and was able to keep himself going by painting A.R.P. shelters, work involving little climbing. Sometimes the difficulty of obtaining suitable employment is aggravated by geographical conditions: it was often found well-nigh impossible for a disabled man to obtain suitable employment in the Islands.

A common complaint was that the jobs suitable for disabled men had been filled by men who had not been to the war and by women. This applied particularly to many types of machine operating. Some men continued to do too heavy work because they were afraid to rest when not very well in case they lost their jobs. Some had difficulty in obtaining tools lost while their owners were away on service. Clothing often presented difficulty, some complaining that they had not received sufficient coupons and others that they had insufficient money with which to pay for clothes.

Many of these men met financial difficulties, and some were in debt. Some reported that they had found suitable jobs, but that their wages were too low to maintain their homes, and it was a common lament that a rent that had presented no great difficulty before the war was too heavy, in view of reduced earning capacity. There were complaints about delays in settling pensions problems and matters of Service allowances, and sometimes reports of difficulty in getting sickness benefit on return to civil life; some complained that they could obtain only assistance relief.

Difficulties of housing were common. Many had given up their houses on going on service and found difficulty in getting others.

> *Case* 845.—J. R., age 33, invalided out of the Army on account of feebleness of mind. Formerly worked as a cattle drover and on returning from the Army wished to take up unskilled work of national service. He found work as a night watchman, but complained repeatedly that he could not get a house for his wife and three children. His wife had sub-let their house while he was away at the war, and the tenant not only refused to get out, but was selling up his belongings.

In a few cases housing difficulties were complicated by special considerations, such as the need for a ground floor house to avoid stair climbing, and in many the difficulty of obtaining a house led to travelling long distances to and from work that inevitably added to the difficulties of these disabled men.

Many reported medical difficulties arising from their disabilities. Some of these were relieved by treatment, others scarcely lent themselves to it. Cases of peptic ulcer, in particular, experienced difficulty in obtaining a sufficiency of suitable food to enable them to do a full day's work. Some amputation cases chafed at what they thought was delay in securing artificial limbs for them. Some of the men complained that they had difficulty in settling down, a difficulty easily understandable, and many felt that they should have issued to them a discharge badge which would readily demonstrate their service with the Forces.

The extent to which unsuitable work was adopted.

26. In assessing the suitability of the work which these men took up, exception has been taken only to cases in which the course followed was clearly incompatible with the man's welfare, together with a few in which working capacity was prejudiced by failure to seek medical treatment urgently necessary. On this basis it was found necessary to take exception to the course adopted by 188 cases, some 20 per cent. of the total. Of these 188 cases, 65 were found to be unemployed at the end of six months, 23 to have returned to their old work, 2 to have been accepted for training, and 98 to have taken up new work without training. One hundred and six made false starts at work at which they did not continue and only 12 returned to the service of their old employer. The prevalence of cases regarded as unsatisfactory was rather higher at younger ages.

Not all of these men were still engaged in unsatisfactory work at the end of six months, for some had already realised their mistake and taken up work more suitable : in a number of these cases the change of work was effected as a result of follow-up under this survey in the third month after return to civil life. Some, on the other hand, were found to have left suitable work for unsuitable.

> *Case* 83.—H. C., age 42, pulmonary fibrosis with old healed tuberculosis. On leaving the Army this man returned to his old work as a tramway driver, but left to become a barman. This soon proved to be unsatisfactory and he left it to become a leave-club attendant.
>
> *Case* 616.—A. M., age 57, myocardial degeneration and arthritis. On leaving the Army he returned to his old work as a shoemaker, but left that to become a stoker, a job which, in view of his heart disease and his age, could only be regarded as unsuitable. He had to walk 4½ miles to his work and he very soon changed to a stoking job nearer home : on follow-up at the end of six months he was anxious to secure a change of employment.

As already noted, quite a number of disabled men found their way into work that was too heavy for them. Sometimes these men found it possible to carry on with unsuitable work for a surprisingly long time, though sooner or later they must inevitably break down.

> *Case* 495.—J. V., age 41, chronic nephritis and chronic bronchitis, with severe shortness of breath and swelling of the feet. This man was regarded by the doctors of the invaliding hospital as suitable only for sedentary work. Before the war he had been employed as a furniture remover, but he had Service experience as an aircraft rigger, so he was placed in aircraft fitting, as purely sedentary work did not appeal to him. He managed to do fitting work for some three months, but found it too heavy and secured a post in the Corps of Commissionaires.
>
> *Case* 216.—A. McP., age 45, chronic bronchitis and emphysema, with breathlessness on exertion. He was employed as an iron moulder but had to give up that work some time before going on service, and had later been employed on light foundry work. About six weeks after leaving the Army he commenced work as a furnaceman and five months later he was still employed in this heavy work and without complaint, though it was obviously beyond his physical resources.

Instances have already been noted of men suffering from chest disease who went to work involving excessive exposure to dust and fumes. Cases have also been encountered where men with chronic recurrent skin and eye troubles took up work involving heavy exposure to dust, which could scarcely fail to aggravate their disabilities.

> *Case* 635.—R. E., age 36, invalided out of the Army on account of recurrent eczema. He was formerly a fish merchant, but on returning to civil life took up work in a corporation cleansing department. He found that the dust associated with the work caused his skin to break down and he had to be admitted to Edinburgh Royal Infirmary, where he remained a patient for three months. Arrangements were made to place him in motor driving on his discharge from hospital.
>
> *Case* 334.—W. S., age 27, chronic blepharo-conjunctivitis. Before the war this man was employed as a miner, but on leaving hospital was warned that he should not return to work in the mines on account of its heavy dust exposure. Despite this warning he tried again to work as a miner in a section of the pit where there was said to be no dust. He broke down and was certified unfit for work in mines. Next he obtained employment as a labourer in a wood yard, but did not like that and left it to return to the

mines. On follow-up at the end of six months he was found to be still a miner, but his eyes were troubling him again and he had made a request to be found other work.

Sometimes the work adopted by these men was full of accident risk for the man himself, as in the case of an epileptic who became a stoker. Sometimes the work was charged with danger for the public, as in the case of a man, since dead, who suffered from severe splenic anaemia and insisted on driving a bus, though strongly advised by the doctor in hospital to do only sedentary work ; or as in

Case 37.—W.S., age 24, a case of diabetes under treatment by insulin. Formerly a process worker at an explosives factory, he returned to that work on leaving the Army, but in two months left it to become a bus driver, work dangerous in view of the risk of attacks of unconsciousness incidental to the administration of insulin while working long shifts without adequate feeding facilities.

Another group of cases to which exception was taken was that in which no efforts were made to meet a serious and urgent need for medical treatment.

Case 364.—R. N., age 35, pulmonary tuberculosis. The invaliding hospital reported that his future depended on how he responded to sanatorium treatment, but he did not even consult his own doctor and returned without treatment to his former employment as a painter.

Case 484.—A. S., age 37, invalided out on account of syphilitic heart and arterial disease. The invaliding hospital reported that he would be fit for work when he had completed a course of treatment. He did not seek medical advice and has had no hospital treatment : he is still unemployed.

Summary.

27. From a preliminary survey, carried out in 1941, of the histories of 300 men on their return to civil life after having been invalided out of the Forces as medically unfit for further service it emerged that, left to themselves, these men fared badly—socially, medically and in relation to work. The majority required care from their own doctors, and about 21 per cent. hospital care, for the condition responsible for their discharge within six months of leaving the Services. At the end of six months it was found that 27 per cent. were unemployed, and of those who were in employment only one-third had gone back to their old work. Many reported that they were meeting serious difficulties, and, though not specifically asked, some 24 per cent. of them volunteered the information that since returning to civil life they had tried to do work at which they were unable to continue.

The present investigation was designed to see what could be done to help these men. Based on the framework of the Interim Scheme of the Ministry of Labour and National Service it involved the study of records of 1,000 consecutive men (and women) invalided out of the Services early in 1942. Where necessary these records were amplified by consultation with the invaliding hospitals and with the men's own doctors. Recommendations were made on the work considered to be best suited to residual disabilities and in some cases it was possible to arrange for necessary hospital treatment. Cases were followed up during the third month after return to civil life. Where difficulties were being experienced, efforts were made to meet them by consultation with the patient's own doctor, and, frequently by interview with the patient—sometimes with a view to recommendation for training, more frequently to secure alteration of work without training. The men were followed up again six months after leaving the Services. There was ample evidence that efforts made to help these men were appreciated alike by doctors and patients.

The results of the survey are set out in this report. Four of the men died during the period under review and for various reasons it was found impossible to obtain detailed information about 21 others, but full records are available for 975. This information has been analysed according to the age, duration of service of the men, their need for hospital care after leaving the Service and the disability from which each suffered. Two-thirds of the men were under 35 years of age, and only 35 over 50. Duration of service with the Forces was less than three years in some five-sixths of the cases, and in 77 less than three months.

The results of follow-up have been studied in relation to medical, social and employment findings. Six hundred and thirty-seven of the men required care from their own doctors and 153 hospital treatment for the condition for which they were discharged from the Services. One hundred and sixty-one were unemployed, 389 had gone back to their old work, 382 had taken up new work without training and 43 with training under the Interim Scheme. Two hundred and fifty-seven returned to the service of their old employer, some to do lighter work. Altogether 256 made false starts at work at which they were unable to continue. Of 864 who were known to return to work 515 did so within a month of leaving the Forces, 758 within two months, 781 within three months and the remaining 83 between the fourth and sixth months. Three hundred and sixty reported that they were having difficulties of varying kinds, and it was found necessary in 188 cases to take serious exception to the nature of the work done by the men in view of their medical disabilities or, in some cases, their failure to seek medical treatment which they urgently required and the absence of which could not fail to prejudice their working efficiency. The chief clinical conditions from which the men suffered have been indicated and some of the problems presented by these cases. Some cases would benefit from a few weeks treatment in a residential fitness centre as a prelude to return to work. Comparison between the preliminary survey carried out in 1941 and that of 1942 must be made with caution, but it seems clear that the work experience of the 1942 group has been considerably better than that of the former.

The difficulties described by the men themselves show how closely interrelated are their social, medical and occupational aspects. Any attempts to meet the difficulties of these men must take cognisance of these related considerations, and it is believed in the light of experience that an intensification of effort along the lines of the 1942 survey could reduce still further economic wastage and demoralisation.

APPENDIX A.

Particulars concerning 25 cases not included in Statistical Tables in Appendix B for reasons shown.

Case No.	*Age.*	*Service.*	*Disability.*	*Severity.*	*Work recommendation.*	*Former employment.*	*Notes.*
84	25	Army $2\frac{1}{12}$	Pulmonary fibrosis.	Slight.	Light labouring not in dusty atmospheres.	Printer's labourer.	Information refused. Known to have been placed as labourer.
106	20	,, $\frac{3}{12}$	Psychosis.	Material.	Defer.	Rigger.	Died 7 weeks after leaving Service.
308	31	,, $2\frac{4}{12}$	Psycho-neurosis.	Slight.	Old work.	Bricklayer's labourer.	At follow-up in 3rd month was labouring: at 6 months could not be traced.
318	18	,, $\frac{1}{12}$	Bronchiectasis.	Severe.	Defer.	Light porter.	Required operative treatment. Could not be traced.
331	22	Navy $1\frac{8}{12}$	Defective vision.	Material.	Labouring work at home.	Assistant steward.	Could not be traced.
336	27	Army 3	Essential hypertension.	Severe.	Defer.	Toolsmith.	Died 5 months after discharge.
337	37	,, $1\frac{1}{12}$	Arthritis.	Material.	Old job.	Moulder.	Recalled to Army.
448	32	,, $1\frac{5}{12}$	Chronic inflammatory swelling neck.	Slight.	Defer.	Butcher.	Died.
468	31	,, $2\frac{6}{12}$	Optic atrophy (syphilitic).	Severe.	General labouring away from machinery. Not to drive.	Lorry driver.	Requires hospital treatment. Left address given (lodgings) for unknown destination.
697	Not stated.	Not stated.	Cardiac hypertrophy.	Slight.	Old job.	Painter.	In Army.
704	30	Army $8\frac{9}{12}$	G.S.W. arm.	Not stated.	Defer.	Ploughman.	In Army.
705	24	,, $2\frac{5}{12}$	Psychopathy personality.	Material.	Old work.	Quarry labourer.	"A complete failure, devoid of moral sense." In 3rd month was unemployed, having tried manual labour. At second follow-up was serving sentence of 1 yr. for theft.
714	24	Navy $1\frac{6}{12}$	Gastric ulcer.	Slight.	Training recommended.	Lumberjack and fisherman.	Repatriated to Newfoundland.
723	35	Army $2\frac{8}{12}$	Splenic anaemia.	Severe.	Light sedentary work.	Lorry driver.	Insisted on driving a bus and did so for about 3 months. Died.
728	19	Navy $\frac{6}{12}$	Defective vision.	Slight.	Old work.	Tractor driver.	Could not be traced.
781	44	Army $1\frac{7}{12}$	Anxiety neurosis.	Slight.	Special work, London.	Fur merchant.	Probably went to London, but no trace.
785	22	Navy $2\frac{1}{12}$	Psychopathic personality.	Material.	Old work.	Hotel inquiry clerk.	No trace.
812	20	Army $1\frac{3}{12}$	Epididymitis.	Not stated.	Training recommended.	Labourer.	No trace.
862	26	,, $2\frac{3}{12}$	Psycho-neurosis.	Slight.	Transport department work.	Painter's labourer.	No trace.
863	38	,, $\frac{2}{12}$	Osteo-arthritis knee.	Slight.	Labourer.	Labourer.	No trace: house destroyed by enemy action.
871	38	,, $2\frac{2}{12}$	Mental defect.	Slight.	Old work.	Handyman.	In Army.
905	23	A.T.S. $2\frac{6}{12}$	Psycho-neurosis.	Material.	Old work.	Aerated water worker.	Joined W.A.A.F.
928	35	Navy $\frac{5}{12}$	Injury right hand.	Material.	Old work.	Maltman.	No trace: has left old address.
950	37	R.A.F. 2	Duodenal ulcer.	Slight.	Old job.	Cinema operator.	No trace.
[illegible]	[illegible]	[illegible]	[illegible]	Not stated.	Defer.	Warden.	No trace: address given is

APPENDIX B.

STATISTICAL TABLES.

1. Age in relation to nature of disability and results of follow-up.

Age.	Total Cases.	Nature of Disability.																			
		Peptic Ulcer.	Other Alimentary Diseases.	Valvular Heart Disease.	Myocarditis.	Arterial Disease.	Rheumatism (excluding heart disease.	Pulmonary Tuberculosis.	Bronchitis.	Asthma.	Other Respiratory Diseases.	Psycho-neurosis.	Psychosis.	Epilepsy.	Mental Defect.	Skin Disease.	Eye Conditions.	Ear, Nose and Throat Diseases.	Head Injuries.	Other Injuries.	Non-pulmonary Tuberculosis.	Other Diseases.
–24	282	35	2	6	2	3	6	4	3	3	10	86	11	9	32	7	3	13	5	19	5	18
25–	379	77	10	7	1	1	8	6	8	5	7	106	11	9	19	9	6	21	7	30	2	29
35–	230	51	12	1	1	6	11	3	13	2	2	65	4	4	8	2	4	4	3	13	1	20
45–	68	8	2	–	2	6	8	–	10	–	4	4	1	–	–	1	3	3	–	10	–	6
55–	12	1	–	–	1	5	–	–	2	–	–	–	–	–	–	–	–	–	1	2	–	–
Not stated . . .	4	–	–	–	–	–	–	–	–	1	–	2	–	–	–	–	–	1	–	–	–	–
TOTALS . .	975	172	26	14	7	21	33	13	36	11	23	263	27	22	59	19	16	42	16	74	8	73

Age.	Results of Follow-up.																				
	Medical History.		Work History.																		
			Position at end of six months.						Weeks of Unemployment before starting work.												Report having difficulty.	Regarded as unsatisfactory on work or medical grounds.
					New Work.																	
	Received General Practitioner's Care.	Received Hospital Care.	Unemployed	Old Work.	Without Training.	With Training.	Working with old employer.	False start at work.	1	2	3	4	5	6	7	8	9	10–13	13–26	N. S.		
–24	178	50	50	118	101	13	64	66	21	26	30	57	23	20	4	6	10	9	27	49	87	64
25–	246	58	60	163	140	16	112	96	28	50	40	88	36	39	14	4	12	7	31	30	152	62
35–	161	35	43	80	97	10	68	69	16	35	19	55	22	18	7	4	6	4	18	26	96	45
45–	44	8	5	21	38	4	16	19	11	8	4	18	3	4	2	3	4	2	4	5	19	13
55–	7	2	2	4	6	–	4	5	–	1	–	6	1	–	–	–	–	–	3	1	5	3
Not stated . .	1	–	1	3	–	–	3	1	–	–	–	2	–	–	–	–	1	1	–	–	1	1
TOTALS .	637	153	161	389	382	43	267	256	76	120	93	226	85	81	27	17	33	23	83	111	360	188

APPENDIX B.

2. Nature of disability in relation to work recommendation and results of follow-up.

Nature of Disability.	Severity of Disability.				Work Recommendation.				RESULTS OF FOLLOW-UP.																										Regarded as unsatisfactory on work or medical grounds.	Total Cases in Group.
									Medical History.						Work History.																					
									Received general practitioner care.			Received hospital care.			Position at end of six months.						Weeks of unemployment before starting work.												Report having difficulty.				
																	New work.																				
	Slight.	Material.	Severe.	Not stated.	Old Work.	New Work without Training.	New Work with Training.	Deferred.	Yes.	No.	N.S.	Yes.	No.	N.S.	Un-employed.	Old Work.	Without Training.	With Training.	Working with old employer.	False starts at work.	1	2	3	4	5	6	7	8	9	10–13	14–26	N.S.	Yes.	No.	N.S.		
Peptic ulcer . .	76	68	6	22	94	54	16	8	145	26	1	20	151	1	25	70	68	9	60	46	6	25	10	48	19	9	6	5	6	4	17	8	70	101	1	37	172
Other alimentary diseases . .	10	12	1	3	12	9	3	2	20	6	–	–	26	–	3	10	11	2	6	8	4	4	2	8	1	1	–	1	1	–	2	–	11	15	–	8	26
Valvular heart disease . . .	4	8	1	1	4	6	2	2	11	3	–	2	12	–	2	5	6	1	7	1	–	1	2	1	1	3	–	–	1	–	3	2	2	12	–	1	14
Myocarditis . .	–	4	2	1	2	3	1	1	5	2	–	2	5	–	2	2	3	–	2	2	–	2	1	1	–	–	–	–	–	1	1	1	2	5	–	1	7
Arterial disease .	1	13	3	44	9	9	2	1	10	11	–	–	21	–	4	9	8	–	2	8	4	2	–	5	1	2	1	1	–	–	4	1	9	12	–	5	21
Rheumatism (excluding heart disease) . .	12	15	2	4	13	16	2	2	21	12	–	6	26	1	4	10	18	1	6	11	5	4	1	11	3	2	3	–	1	–	–	3	17	16	–	5	33
Pulmonary tuberculosis . .	6	4	3	–	3	5	–	5	9	4	–	8	5	–	5	4	4	–	3	3	–	1	1	1	2	–	1	–	–	1	2	–	4	9	–	2	13
Bronchitis . .	9	20	1	6	14	17	3	2	22	13	1	3	32	1	4	10	20	2	7	13	6	4	–	11	5	3	–	–	–	–	3	2	12	24	–	8	36
Asthma . .	2	7	–	2	2	4	5	–	8	3	–	2	9	–	3	2	5	1	1	6	1	1	1	2	3	1	–	–	–	2	–	–	6	5	–	6	11
Other respiratory diseases . .	6	13	2	2	8	9	2	4	12	11	–	5	18	–	7	5	10	1	4	9	2	2	3	5	–	3	–	–	4	–	1	1	6	17	–	4	23
Psycho-neurosis .	158	90	2	13	203	44	5	11	166	94	3	23	237	3	35	130	92	6	80	59	22	27	36	58	25	24	8	5	9	6	17	12	103	158	2	61	263
Psychosis . .	12	9	5	1	13	9	–	5	16	11	–	6	21	–	5	9	12	1	4	9	1	5	3	5	3	4	–	1	–	1	1	1	8	19	–	10	27
Epilepsy . .	8	11	2	1	13	8	–	1	16	6	–	1	21	–	5	9	8	–	6	6	1	2	2	5	4	1	2	–	2	–	2	–	6	16	–	3	22
Mental defect .	15	38	3	3	51	7	–	1	27	32	–	2	57	–	14	24	21	–	12	18	4	13	6	11	5	5	–	1	1	1	2	5	13	46	–	15	59
Skin diseases .	9	7	2	1	14	4	–	1	13	6	–	7	12	–	3	11	5	–	11	3	3	6	1	5	–	–	–	1	–	–	1	2	6	13	–	2	19
Eye conditions .	6	6	1	3	8	6	2	–	8	8	–	5	11	–	2	7	5	2	5	4	2	3	2	6	–	–	2	–	–	–	–	–	4	12	–	2	16
Ear, nose and throat diseases . .	14	19	5	4	27	11	4	–	30	12	–	12	30	–	3	21	16	2	12	11	2	5	7	7	3	5	1	2	2	2	2	4	19	22	1	2	42
Head injuries .	5	9	1	1	7	6	–	3	14	2	–	5	11	–	5	6	5	–	5	5	1	1	1	6	1	–	–	–	–	1	1	1	8	8	–	1	16
Other injuries .	14	26	26	8	20	30	14	10	33	39	2	22	51	1	14	11	39	10	15	17	7	5	4	14	1	8	1	–	3	3	14	6	24	48	2	7	74
Non pulmonary tuberculosis .	–	6	1	11	1	1	2	4	5	3	–	5	3	–	3	3	1	1	3	–	1	–	–	1	–	1	–	–	–	–	2	–	2	6	–	1	8
Other diseases .	21	36	7	9	33	27	7	6	46	27	–	17	56	–	13	31	25	4	16	17	4	7	10	15	8	9	2	–	3	1	8	3	28	45	–	7	73
Total .	388	421	76	90	551	285	70	69	637	331	7	153	815	7	161	389	382	43	267	256	76	120	93	226	85	81	27	17	33	23	83	52	360	609	6	188	975

CHAPTER V.

GLENEAGLES FITNESS CENTRE.

Introductory.

As early as 1935 there was opened at Motherwell under the auspices of the Lanarkshire Orthopaedic Association the first of a series of clinics providing out-patient orthopaedic treatment for mine workers recovering from the effects of accidents sustained in the course of their employment, and since their inception these out-patient clinics in Lanarkshire have done a great deal of useful work. Until the beginning of 1943 there was no residential rehabilitation or fitness centre available for civilians in Scotland though the Army had for some time operated such centres with conspicuous success. The miners' rehabilitation centre at Berry Hill Hall in Nottinghamshire had already demonstrated its value and in August 1942 publication of the White Paper on coal (Cmd. 6364) gave a new impetus to interest in the whole question of rehabilitation. The Department of Health for Scotland, recognising that rehabilitation is an essential complement to existing health services, offered to make available at Gleneagles, so long as the hospital bed situation permitted, accommodation for the rehabilitation of Scottish miners and this offer was accepted by the Ministry of Fuel and Power and the Miners' Welfare Commission.

Available accommodation and its lay-out.

Gleneagles hospital was, before the war, a luxury hotel. In the autumn of 1939 it had been taken over by the Department of Health for Scotland as an emergency hospital and by the end of 1942 it had treated over 10,000 patients as a unit in the Emergency Hospital Service. Situated with its spacious grounds and with a variety of facilities for recreation in a readily-accessible countryside within some 50 miles of the main industrial centres of Scotland, it is well placed to undertake the rehabilitation of workers.

It was arranged that the ground and first floors of the building should be available as a rehabilitation centre for miners, and that the second floor should continue to function as an emergency hospital, the first floor serving as the dormitory floor for the fitness centre, the ground floor being used for rehabilitative activity and for the main common rooms of the centre. On the ground floor were the gymnasium and swimming pool of the hotel, with associated shower-baths, and three large public rooms which came to function respectively as dining-room, lounge and additional gymnasium space for the fitness centre. It was found that the ground floor required remarkably little adaptation—for practical purposes only the installation of additional gymnastic apparatus and a certain amount of apparatus for physio-therapy. Smaller rooms on the ground floor served as canteen, shop, library and games room. The ballroom, with its excellent stage, made an ideal concert-hall. A plan is reproduced to show the purpose for which various parts of the ground floor have been used in the Fitness Centre. The dormitory on the first floor has accommodation for 200 patients in bedrooms each accommodating from two to five men. There are ample bathroom and lavatory facilities. It was soon found in the light of experience that there was need for yet more accommodation for physical exercises and for the heavier type of occupational therapy, and to meet this need part of a large garage was adapted for these purposes, as shown in the inset to the ground floor plan. The amount of floor space now available for occupational training amounts to approximately 8,500 square feet, arranged in two units, and for physical exercises to approximately 6,500 square feet, arranged in three units ; it is expected that these areas will adequately meet the needs of some 300 trainees. As much of the training work as possible is carried on out of doors and the lawns have proved to be very suitable for that purpose.

To secure the right atmosphere men undergoing treatment in such a fitness centre must be kept working to a regular timetable covering the entire day from 9 or 9.30 a.m. to 4.30 p.m. Their work takes the form of remedial exercises, a certain amount of physio-therapy, organised activity and games and participation in simple crafts. Obviously, the balance of these in the curriculum of the individual must be graded according to his needs. At Gleneagles it has been found convenient to divide the " patients " into three groups according to their physical fitness. The circumstances of an individual patient often call for special modification of the general scheme of treatment, and such modification is, of course, effected, but a general idea of the day-to-day curriculum may be gathered from the specimen timetable reproduced in the Appendix. Each patient is overhauled by the medical staff on arrival at the Centre, and graded according to the intensity of training which he is considered fit to undertake. The condition and progress of each patient is reviewed weekly, and his category for the ensuing week determined. The day-to-day work of the Centre is under continuous medical supervision.

It has been found to be essential in the interests of morale to adhere to a definite schedule of activity and, further, since the evenings are free from organised work, to provide extensive entertainment and recreational facilities. In summer the grounds lend themselves excellently to such games as bowls, putting and cricket, while arrangements have been made for patients who so desire to play over the golf course at a very moderate fee. It is necessary to obtain the greatest possible measure of entertainment and one professional (E.N.S.A.) show and one cinematograph performance are provided weekly. It has generally been found possible to arrange in addition one amateur entertainment per week from outside sources, while there is usually to be found a certain amount of talent among the men undergoing treatment in the Centre. To co-ordinate this important phase of welfare work the Y.M.C.A. have provided the services of an Entertainments Officer as well as those of a Canteen Supervisor, and the assistance of these officers has been of great value. Since the average duration of stay in the Fitness Centre is approximately six weeks, and since many of the men under treatment have necessarily to travel considerable distances from their homes to Gleneagles, it has been found desirable to allow them to have a week-end leave pass every second week. The cost of travel to and from the Centre at the beginning and end of treatment is provided by the Miners' Welfare Commission, who also have agreed to supply for the use of the patients a cinematograph projector and a radiogramophone. There is no charge to miners for treatment or for board or lodging at the Centre.

Staffing of the Centre.

The staffing of a centre of this kind is obviously vitally important, calling for qualities not generally available. It is particularly important that the Superintendent should be an enthusiast, keen and energetic, really interested in rehabilitation, blessed with common sense and the ability to get on with people. It is essential to encourage trainees to do things and to create in the Centre an atmosphere of cheerful optimism ; and the right man can do a great deal to ensure the success of the Centre. At Gleneagles the Medical Superintendent has the assistance of one young doctor ; to preserve continued interest and contact with surgical work it has been arranged that two young graduates shall alternately undertake three months of work in the Gleneagles Fitness Centre and three months at one of the Department's base hospitals. The visiting medical staff comprises consultant surgeon, consultant physician, and consulting orthopaedic surgeon. Apart from medical personnel, the technical staff consists of three physical training instructors, two occupational therapists, and two physiotherapists. There are in addition the two ladies, already mentioned, provided by the Y.M.C.A.; their work in connection with canteen and library is supplemented by the assistance of voluntary workers living in the neighbourhood. The physical side of treatment has been placed under the general supervision of the manager of Rangers Football Club, himself an experienced authority in this field, for which at Gleneagles he is directly responsible to the Medical Superintendent. There are no nurses on the staff of the Fitness Centre; when a disabled man under treatment is found to require incidental hospital care he is transferred formally to the hospital unit.

Machinery of admission.

When the Centre was ready to receive its first clients, hospitals normally serving mining areas and miners' convalescent homes were invited to recommend cases which they thought likely to benefit from treatment there. The only conditions were that the men should be such as offered a prospect of restoration to working capacity within a reasonable period of time and that they should be past the stage of requiring nursing care. As the staff was gradually built up, doctors practising in mining areas were similarly invited to submit for admission the names of suitable patients. Application for admission is made in the first instance to the Medical Superintendent. In the majority of cases it is clear enough from a study of the paper evidence submitted whether or not the patient is indeed suitable for admission to the Centre, but when he thinks that course necessary the Superintendent asks the Department's Regional Medical Officer in Glasgow or Edinburgh to examine applicants and to advise on their suitability for admission. To simplify administration it has been arranged that cases are admitted to the Centre every Monday and that discharges take place at the end of each week.

Type of case admitted.

It was decided to admit to the Fitness Centre from the beginning men whose need for rehabilitation arose from " medical " disabilities as well as " surgical " since it seemed that the conception of rehabilitation was in danger of assuming a connotation too exclusively surgical—almost " fracture." About one-third of the cases sent to Gleneagles since the Centre opened have been medical, and the leavening of medical cases has already proved an asset. They are valuable in so far as they help to convince the miners that the Centre is genuinely anxious to secure restoration to physical fitness no matter what the nature of the incapacity—that it is not a device for the reduction of compensation. They are of value, too, in so far as they afford material for the study and development of a technique for the rehabilitation of " medical " disabilities. Experience among the insured population has amply demonstrated that the great bulk of incapacitating sickness is medical in nature rather than surgical and no opportunity is to be lost of evolving a method of approach that will help to restore these cases to functional efficiency.

Duration of stay.

The average duration of stay in the Centre has been found to be about six weeks. The aim is to return as many as possible of the men to the mining industry, and the great majority are so returned, but it inevitably happens that a small minority are unfit for further work in that industry with its heavy physical demands, and it has been arranged to bring such cases to the notice of the Ministry of Labour and National Service with a view to securing for these men employment suited to their residual disabilities with training for new work where that is necessary. It is obviously useless to discharge a man from the Fitness Centre to idleness.

Summary.

It is yet much too early to assess the value of the work done at Gleneagles. The following tentative figures, insufficient as they are to permit generalisation, summarise the results obtained during the early developmental months of the Centre's existence from its opening at the end of January until the end of June. In all, 390 applications for admission were received, 32 were refused by the Centre as unsuitable, and 24 after having been accepted for admission decided not to come for a variety of reasons (domestic, financial, etc.). Three hundred and fourteen were admitted and of these 89 were medical and 225 surgical. One hundred and eighty-four patients have been discharged from the Centre and there were at 30th June under treatment there 130. Of the 184 who have been discharged 111 were fit for their former employment, 30 fit for light work, 7 not fit for any work, 6 found after admission to be unsuitable for rehabilitation, 20 referred back for hospital treatment, while 5 left before completion of treatment.

Elia wrote about " that swamp of convalescence left by the ebb of sickness, yet far from the terra firma of established health " and he knew that for one in such a state there was nothing better than " a gentle call to activity . . . a wholesome weaning from the preposterous dream of self-absorption." There seems to be little doubt from the enthusiasm of the men, from their zest for their work and for their evening's entertainment (on which they so obviously embark " with the gratifying feeling that their duty has been done "), from their co-operation and from the appreciation that they express on leaving Gleneagles Fitness Centre, that the Centre meets a real need, and that the work of such a Centre is in fact a valuable complement to existing health services.

APPENDIX.

General Scheme of Work, Gleneagles Fitness Centre.

	Grade 3.				Grade 2.				Grade 1.			
	Nature of Disability.				Nature of Disability.				Nature of Disability.			
	Hand, arm, and shoulder.	Leg.	Trunk.	Medical.	Hand, arm, and shoulder.	Leg.	Trunk.	Medical.	Hand, arm, and shoulder.	Leg.	Trunk.	Medical.
9.30 till 10.15	General P.T.				General P.T.				General P.T.			
10.45 till 11.30	Occupational therapy	Remedial exercises	Remedial exercises	Remedial exercises	O.T.	Remedials	Remedials	Swim	O.T.	Remedials	Remedials	Swim
11.30 till 12.15	Remedials	Walk	Walk	Walk	Remedials	O.T.	Swim	Remedials	Remedials	O.T.	Swim	Remedials
	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner
2.0 till 2.45	Walk	O.T.	Remedials	Swim	Walk	Swim	Remedials	O.T.	Walk	Walk	Walk	Walk
2.45 till 3.30	Swim	Remedials	Swim	Gen. P.T.	Swim	Remedials	O.T.	Gen. P.T.	Swim	Remedials	O.T.	Gen. P.T.
3.30 till 4.15	Remedials	Swim	O.T.	O.T.	Remedials	Walk	Walk	Walk	Remedials	Swim	Remedials	O.T.
	Tea	Tea	Tea	Tea	Tea	Tea	Tea	Tea	Tea	Tea	Tea	Tea
5.0 till 10.30	Recreational activities				Recreational activities				Recreational activities			

POSTSCRIPT.

LONG ago Ramazzini of Padua wrote of potters that—

> "... 'tis a hard matter to light upon such Remedies as will restore them to perfect health: For they seldom have recourse to the Physicians, till the use of their Limbs is taken from 'em, and their *Viscera* grown hard: besides, they are commonly pinch'd with another Evil, viz. Extream Poverty."

It is no more possible to-day to contemplate the issues involved in the conservation of industrial health, even as they unfold themselves in these sketchy pages, without realising how intimately working efficiency is bound up with medical and social considerations.

The aim has been to describe some efforts made in Scotland in recent years to foster the health of workers and to study the nature and problems of incapacitating sickness. Much of the work has been essentially experimental and exploratory. How to reduce health breakdown to a minimum; how to secure the early and effective treatment necessary to prevent, so far as possible, the drift into chronic invalidity; how to restore one who has been sick to the greatest measure of working capacity compatible with any residual disability; how to integrate medical and industrial care to ensure that determined efforts are made to obtain for the individual work consistent with his talents and his physical capacity—these are the problems. Their solution is not easy; it involves effective co-operation by the official agencies concerned, and a personal approach based on scientific assessment and couched in sympathy and understanding, for only so can be secured the confidence and co-operation of the people that is so essential to success. But if the problems are difficult the measure of success with which they are attacked will certainly be a measure of our progress in social medicine.

BRITISH COUNCIL
11 APR 1956
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S.O. Code No. 49–274